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ABSTRACT

Designed as a supplement to workshops on radio support for literacy, this reader is intended to assist workshop participants to put radio in the broader perspective of development support communication and to provide background information on the use of radio in adult literacy education. An introduction provides an overview of literacy and literacy programs. Each of the reader's six parts consists of journal article and selections from published documents on the specified topic. Part 1 addresses the educational and developmental context of radio and television. Part 2 deals with radio as a medium for developing and supporting functional literacy. Part 3 concerns planning the use of radio. The section is supplemented by a 2-part questionnaire on the use of radio and television in literacy campaigns which was sent to educational authories and broadcasting organizations in many parts of the world and which could serve as a checklist for project planning. Part 4 discusses the Rural Farm Forum, an organized group listening approach that has become a classical strategy in many literacy programs and beyond literacy for overall rural development. Part 5 is comprised of case studies and country reports of the use of radio for literacy programs in Tanzania, Zambia, Ghana, Niger, India, Dominica Republic, and Colombia. Part 6 provides a brief theoretical framework, followed by a list of requirements for an effective educational media project that seem in large proportion to be well met by the most successful cases, less well by the less successful ones. A bibliography is attached. (YLB)

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PREFACE

This reader is designed as a supplement to workshops of the German Foundation on radio support for literacy. It is compiled to assist participants in these workshops to put radio in the broader perspective of development support communication. It refers to certain important topics which cannot be dealt with in detail during a workshop which is aimed at fulfilling more practical purposes. It provides necessary background information which, nevertheless, should be concrete enough for practitioners.

In Third World Countries books and periodicals are in short supply. Library resources are scarce. It is hoped that this reader will fulfill its purpose as pocket library for those who are interested in the wider context and in some specific topics of the use of radio in literacy programmes.

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Josef Müller

INTRODUCTION

Illiteracy is still a world wide problem. There are today about one billion illiterates in the age-group 15 and older. Unless drastic measures are taken this number will not decrease considerably. There is no ready-made solution to solve the problem of illiteracy which is a bottleneck to development. A variety of ressources is needed for the eradication of illiteracy in a developing society. Radio is one of the ressources. Radio can help to solve certain problems from which literacy programmes suffer all over the world. It can help to solve the problem of inadequate infra-structure because radio waves do not need transport. Radio can help to solve manpower problems because it can train teachers, tutors and monitors and can assist them directly in the teaching process. It can reduce the problem of production of instructional materials and last not least radio can mobilize and motivate for literacy and, after all, radio can do all this at reasonable costs.

What is meant by literacy?

This reader focuses on the use of radio in adult literacy education. The concept of literacy has been subjected over the years to many revisions, reconsiderations and afterthoughts. The concept of literacy has indeed changed with the changing concepts of development.
In 1948 definitions were simple, individualistic and commonsense. Literacy then meant:

> to read and write a simple sentence (United Population Commision).

The discussion of the early 1950s had already introduced the notion of functional literacy, thereby relating the 3 R's to the need of society.
William Gray formulated it thus in 1956:1)

A person is functionally literate when he has acquired the knowledge and skills in reading and writing which enable him to engage effectively in all those activities in which literacy is normally assumed in his culture or group.

The implicit recognition was that literacy was a social communication skill and that "adequate literacy" depended on changing social circumstances and contexts.
The inseparability of literacy and the economic context and development was underlined by the specific concept of functionality adopted at the 1965 Conference in Tehran. According to this new concept of functionality, literacy instruction was to:

> enable illiterates, left behind by the course of events and producing little, to become socially and economically integrated in a new world where scientific and technological progress call for ever more knowledge and specialisation.

The Tehran Conference gave expression to the close link of literacy and social and economic progress when it stated in its conclusions that:

> rather than an end in itself, (functional) literacy should be regarded as a way of preparing man for a social, civic and economic role that goes far beyond the limits of rudimentary literacy training consisting merely in the teaching of reading and writing. The very process of learning to read and write should be made an opportunity for acquiring information that can immediately be used to improve living standards; reading and writing should lead not only to elementary general knowledge but to training for work, increased productivity, a greater participation in civic life and a better understanding of the surrounding world, and should ultimately open the way to basic human culture.2)

During the following ten years it became obvious that illiteracy was not only a consequence of economic constraints but of political conditions. Illiteracy was beginning to be regarded as the result of economic, political, social and cultural exploitation and domination and, in consequence, not as a failure of the individual but of the society. Literacy, by contrast, became a liberating tool, a means to increase access to and the control and real exercise of power. The Declaration of Persepolis3) considered literacy to be:

> not just the process of learning the skills of reading, writing and arithmetic, but a contribution to the liberation of man and to his full development. Thus conceived, literacy creates the conditions for the acquisition of a critical consciousness of the contradictions of society in which man lives and of its aims; it also stimulates initiative and his participation in the creation of projects capable of acting upon the world, of transforming it, and of defining the aims of an authentic human development.

The discussion after Persepolis tried to combine aspects of functionality with the liberation of man as the purpose of the development process. Functionality became the relationship between literacy on the one hand and man's environment and his fight for his rights of justice and equity on the other. Literacy was regarded as a means of transforming, constructing and reconstructing experience. Thus UNESCO formulated in its Medium Plan 1977-82:

> The concept of functionality is to be understood in the widest possible sense - economic, social, cultural and political - as denoting the way in which the literacy process attempts to meet the need to learn the rudiments of written communication and arithmetic and the other needs felt by every adult as an individual and as a member of the community. To enable these different needs to be satisfied there are types of integrated programmes designed to strengthen the learning process and make literacy action a process of change that is both produced by and productive of other changes. This relation need not, however, be confined solely to the objective of strictly economic development; it may imbue every area, whether economic, social, cultural or political, in accordance with the needs and motivations of adults themselves and the general context in which the literacy process is taking place. This functional link between literacy action and the life of the men and women towards whom it is directed must be related in the concept of programmes, the choice of institutions taking part and the nature of the relationship between learners and teachers.

The discussion makes clear that a definitive and universal definition of literacy is impossible, as literacy is functional to a dependent variable, e.g. work, environment, justice, etc., and in many cases intergrated into other sectors, e.g. agriculture, health, community development and the like. That means that all literacy of concern is related to something: to learning and further learning, to transforming, constructing and reconstructing experience. What "adequate literacy" is cannot be defined beforehand; it is always contextual and the experience to which it is related covers the whole range of man's life: cultural, social, economic and even political.

Literacy campaigns programmes and projects

To define "adequate strategies" of literacy is difficult as well. In recent discussions during and after the International Seminar "Campaigning for Literacy" (Udaipur, January 1982) it became obvious that there are mainly three different strategies to cope with the problem of illiteracy, namely campaigns,programmes and projects. 5)

- A campaign to be so-called is an organized large-scale series of activities intensely focused on a set of objectives to be achieved within some pre-determined period of time. A campaign has about it a sense of urgency and combativeness. It is politically "hot". It is the most important thing that needs to be done, at that point in the history of a nation. It is planned as an expedition or as a crusade. All available resources of a nation are to be at its beck and call, should the need arise.

- A programme is also a planned and systematic activity. It could be both large-scale and time-bound just like a mass campaign, but it is politically "cool". It is developmental action without political passion; urgent, but without dash and a certain impatience. It is one of the many "most important tasks" the nation must accomplish. It gets its share of resources, and is expected to get the most returns from resources budgeted for the programme.

- A project is a small-scale programme, with its objectives very strictly (even narrowly) defined within a larger programme and confined, perhaps, to a small area. Thus many projects could be subsumed under one programme. The difference between a project or a programme would,therefore, be a matter of focus and size. Again, many programmes could be incorporated within a campaign. A campaign could also be organized incrementally as a series of programmes, one programme building upon the other, or as a programme expanding from one geographical area to others. The essential difference between a programme and a campaign is, perhaps, in the political temperature of the event; in the level of commitment and style of mobilization of resources.

Each of these strategies has its strengths and weaknesses. However, illiteracy is a mass problem. Solutions must correspond to the magnitude of the problem. A mass problem cannot be solved with small selective and intensive pilot projects.

Radio for Literacy.

The Outline of the Reader.

The Reader is divided into six parts namely

1. The Educational and Developmental Context of Radio (and TV)
2. Functional Literacy and the Use of Radio
3. Planning the Use of Radio
4. The Rural Radio Forum
5. Case Studies and Country Reports
    - Tanzania
    - Zambia
    - Ghana
    - Niger
    - India
    - Columbia
    - Dominican Republic
6. Summing up

1. The Educational and Developmental Context of Radio and TV

The first part of the reader puts the electronic media TV and mainly radio in context.

Hawkridge and Robinson 6) define educational radio and TV as

- broadcasting of programmes that aim to teach directly and indirectly

and

- the use of these programmes both in formal and non-formal learning.

Educational broadcasting exhibits 4 dominant characteristics:

- its programmes are arranged in series to assist cumulative learning;
- they are explicitly planned in consultation with external educational advisors;
- they are commonly accompanied by other kinds of learning materials such as textbooks and study guides;

and

- there is some attempt made to evaluate use of the broadcasts by teachers and students.

A catalogue of countries and territories who were using educational radio programmes in the 1970s is followed by an analysis of factors that influence planning and implementation of educational radio and TV. These factors can be

- geographical
- political
- cultural
- educational
- economic
- technical

Another important issue is what goals radio as part of a development support communication system can achieve using which strategies. Jamison and McAnany 7) defined the goals as

- to motivate
- to inform
- to teach
- to change behaviour

The strategies adopted are

- open broadcasting
- radio campaigns
- regular listening groups in form of
  + radio schools
  + radio farm forums
  + radio animation groups
- the telecommunications use of radio

A table on goals and strategies of radio for development indicates the effectiveness and reach of each of the strategies.

Radio is only one medium. The effective use of radio calls for a combination with other media, especially with print media. Hilary Perraton 8) examines practical experience using radio for development and education and underlines the importance of the Multi Media Approach. Five different forms of radio application are described.

- broadcasting for development
- open broadcasting
- broadcasting with print support
- broadcast with print and feedback
- broadcast for groups

Perraton refers briefly to the functions of broadcasts (to motivate, teach, to respond to learners problems) before coming to the different formats of educational broadcasting with special respect to methods for involving the audience and last not least to the costs of radio for education on the basis of some selected examples of open broadcasts and multi-media courses using radio.

2. Functional Literacy and the Radio

Radio can be used effectively for developmental and educational purposes. The second part of the Reader deals with some important basic considerations regarding the use of media especially radio in literacy work and concentrates later on planning issues.

One of the fundamental questions here is the meaning of functional literacy and nonformal education as development strategies. H.S. Bhola 9) analyzes the essential elements of the functional approach to literacy as the integration of literacy and economic skills and its comprehensiveness in the sense that functional literacy is a programme of full development including the aspects of cultural and social transformation. With reference to Russel Kleis the different characteristics of nonformal education are provided and the following definition of nonformal education is given.

> Nonformal education is any intentional and systematic enterprise (usually outside of traditional schooling) in which content, media, time units, admission criteria, staff, facilities and other system components are selected /or adapted for particular students, populations or situations in order to maximize attainment of the learning mission and minimize maintenance constraints of the system.

In the context of basic issues, the question "Why Radio?" should be dealt with again. Literacy is an audiovisual process involving the mastery of visual signs of significant sounds. TV seems to be the better adapted medium to learning of the 3 R's. However, TV is not everywhere available, it is costly and after all more the medium of middle and upper classes in town. Richard Burke 10) points out that radio broadcasting can be a possible source of support to a new or well-established programme of literacy training.

Radio with the invention of the small cheap transistorized receiver reaches people even in distant rural areas.

Radio can easily be combined with other visual materials. Feedback between broadcasters and listeners can be organized.

Radio can secure immediacy.

And radio can do all this at reasonable costs.

Radio is not the perfect medium,but from the experience of many countries thoughout the world it is clearly best used in combination with other media of communication andwith a strong supporting component of field workerswho can engage listeners in the process of communication.

While the electronic media can fulfill important functions in literacy work they are always much more than just educational or instructional media. Education can use the existing broadcasting system but the system has much broader objectives: to inform, to entertain - and to educate. The media put education in perspective as part of the daily life. They put literacy in context: literacy programmes are part of the output the broadcasting authority is committed to provide as a public service anyhow. Literary broadcasting uses existing infrastructure. This has consequences for costs and scale as Maddison 11) points out. The use of radio for literacy should and can be done as part of an overall plan to develop the new techniques of communication for economic and social and especially educational advancement.

3. Planning the Use of Radio

The third and the following sections of the reader deal with "How-to-do-it-questions". Here we have to confine ourselves. We cannot deal with problems of studio production. We have to leave out technical hardware issues. But we have to deal with questions of programme planning and implementation on the one hand and with the organization of the listener's side on the other.

With regard to planning issues we first refer to a "classic" Wilbur Schramm and others 12) in their Memo to Educational Planners deal with three basic issues:

- can the new media produce important educational results
- can Third World Countries afford them
- how can they get started.

Having outlined the "prerequisites of success" they develop a system approach to planning, define the objectives of the new media and specify the components that must be planned for. These are

- the technical components
- contents and teaching
- supporting communication and evaluation
- training provisions.

Two of the most crucial questions in the planning process are

- Who is listening (analysis of the audience)?

and

- What are our objectives?

Richard Burke in his very helpful book on The Use of Radio in Adult Literacy Education (unfortunately out of print) deals with both questions in detail.

The planning section is briefly rounded off by the Conclusions and Recommendations for Planners which McAnany and Mayo 13) twelve years after Schramm draw from the analysis of four concrete cases (Radio Santa Maria in the Dominican Republic, the Nicaraguan Mathematics Project, the Tanzanian Radio Study Campaigns, and the Indian Satellite Instructional TV Experiment).

The section is supplemented by two "Instruments" which could serve as a checklist for project planning:

One is a Project Memorandum from Botswana for a Civics Education Campaign. The other is the Questionnaire on the Use of Radio and TV in Literacy Campaigns used by John Maddison in his study on Radio and TV in Literacy which he did for UNESCO already in 1971 and which became another "classic".

4. The Rural Farm Forum

Organization of the listener side is of utmost importance when radio is being used for literacy. Organized group listening multiplies the results of broadcasts. Radio Forums have become a classical strategy in many literacy programmes and beyond literacy for overall rural development.

In the World Bank Study on Radio for Education and Development 14) after a careful description of

- what Radio Forums are and the advantages of group listening
- the origin of Radio Forums

and a brief analysis of some concrete cases (India, Ghana, Tanzania) concrete Guidelines on Radio Forums of high practical value are given.

In the second article of this section Richard Burke considers how the field worker in a radio-based literacy project develops methods of communication, organizes and maintains listening groups and trains volunteers to use radio effectively.

5. Case Studies, Country Reports

A Reader on Radio for Literacy cannot do without concrete cases and examples. There is enough of well-documented concrete evidence on the Use fo Radio for Rural Development. There is not that much on Radio for Literacy. However, there are cases and it might be worthwhile seeing literacy (again) in the wider context of development keeping in mind that literacy work to be successful can never be just another "Monosectoral Approach".

Tanzania's experience in Radio Mass Campaigns is well-documented. This reader, therefore, describes this approach rather briefly in form of an overview and a summary 15). What is by far not that well documented is the use of radio Tanzania made in its literacy campaign. We, therefore, reprint a paper by E. P. R. Mbakile 16), Evaluation Specialist of the Tanzanian Literacy Centre in Mwanza in the seventies. Mbakile's paper is high practical value for all who want to make best use of radio for literacy work.

Zambia uses radio broadcasting for rural development and literacy. An article by J. E. Nyirenda 17) describes the Zambian experience in detail.

Mbakile's paper is supplemented by an article on the Tanzanian Radio Education Programme by A. H. Kihauli who, at the National Cnetre in Mwanza, was responsible for the radio support for the National Literacy Campaign.

Ghana was the first African country which adopted the Rural Farm Rorum idea which started 1940 in Canada and was tried out in India 1954. Clifford Donkor 18), a rural programmes producer with Ghana Broadcasting Cooperation, describes the experiences made in Ghana.

An interesting approach to use radio in combination with visual and print materials are the "Radiovision" for Literacy Teaching and the Radio Clubs for Rural Development with which Niger experimented already in the sixties 19).

A collection of case studies cannot do without reflecting the Indian experiences with radio rural forums 20) at least in a summary form.

Radio Schools as an alternative pattern of basic education of adults are widely spread in Latin America. Important lessons can be drawn from these schools for literacy work. Two examples are given

- Radio Santa Maria in the Dominican Republic 21)

and

- Acción Cultural Popular, a church based pioneer in the development of radiophonic education programmes aimed at rural audiences founded in Colombia 22) already in 1947.

6. Summing up

As a round-off of experiences made with media for education we refer again to a "classic", to the summary of the chapter on "How are the new media used most effectively" in the "Memo to Educational Planners" by Schramm, Coombs, Kahnert and Lyle

The focus of this reader is not on studio production and hardware problems, it is on basic issues of the use of the new media especially radio for literacy in the context of rural development, on questions of planning and implementation of these radio programmes and on working with listeners. Concrete examples are given.

It is hoped that the Reader will assist those who are engaged in broadcasting and literacy work with some background information which might not be easily accessible in rural areas - and these areas are vast enough.

Josef Müller, DSE Bonn

NOTES

[1] William Gray, The Teaching of Reading and Writing (Paris, UNESCO, 1956). Quotation from Oxenham, p. 86.

[2] Final Report, p. 45.

[3] Adopted by the International Symposium for Literacy held at Persepolis, Iran, from Sept. 3-8, 1975. Quoted from L. Bataille, A Turning Point for Literacy, Pergamon Press 1976, p. 273.

[4] UNESCO Medium-Term Plan 1977-1982, 19 C/4 Appr., para 6616 (c), Paris 1976.
UNESCO, Records of the General Conference, 2oth Session, Paris 24 Oct. to 28 Nov. 1978, Volume I Resolutions, p. 18.

[5] see H.S. Bhola, The Promise of Literacy, Campaigns, Programmes and Projects, Nomos Verlagsgesellschaft, Baden-Baden 1983, p. 206.

[6] David Hawkridge/John Robinson, Organizing Educational Broadcasting. Croom Helm London, The UNESCO Press, Paris 1982.

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[14] Everet M. Rogers/Juan R. Braun with Mark A. Vermilion, Radio Forums: A Strategy for Rural Development, in: Radio for Education and Development: Case Studies Volume II. World Bank Staff Working Paper No 266, 1977.

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[16] E.P.R. Mbakile, Radio Education Programme as a Support to Literacy Methods: The Experience in Tanzania. Mwanza 1975.

[17] Juma Esau Nyirenda, Radio Broadcasting for Rural Development in Zambia, in: Journal of Adult Education, University of Zambia, Lusaka, September 1982: Volume 1, No 1.

[18] Clifford Donkor, in: K.A. Dikshit/I. Boden/C. Donkor/S. Bonzon/ H.B. Alareon/J. Kostâl/G. Powell, Rural Radio: Programme Formats. UNESCO 1979.

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[20] J.S. Yadava, The Media and Adult Education: Indian Experiences, in: H. Cassirer, Co-operation Between the Media and Adult Education Bodies. UNESCO/ED/LAR 1985.

[21] Robert White, An Alternative Pattern of Basic Education: Radio Santa Maria. UNESCO 1976.

[22] Hernando Bernal Alarcôn/Paul H. Masoner/Liliana Muhlmam Masoner, Acciôn Cultural Popular. Pioneer Radiophonic Education Programme for Latin America 1947-1977. Bogotâ 1977.

I. THE EDUCATIONAL AND DEVELOPMENTAL CONTEXT OF RADIO AND TV

1.1. Context of Educational Radio and Television

from: David Hawkridge/John Robinson,
Organizing Educational Broadcasting. Croom Helm London,
The UNESCO Press, Paris 1982,
pp. 23-45

1

CONTEXT OF EDUCATIONAL RADIO AND TELEVISION

Definitions

What counts as *educational* radio and television? It is easy to claim that practically all radio and television programmes have educational potential because they consist of messages that are culture-laden, in the broad sense of that term. Listeners and viewers may therefore learn something from every programme. What individuals learn depends upon their personal experience and abilities as well as upon the content and style of the programme.

In this book, educational radio and television includes (a) the *broadcasting* of programmes that aim to teach directly and indirectly, and (b) the *use* of these programmes both in formal and non-formal learning (whether in classrooms, community centres or at home). Figure 1.1 displays these relationships, which permit many different combinations of purpose on the part of broadcasters and use on the part of learners.

		Teaching Purpose	
		Direct	Indirect
Learning Situation (in classrooms, community centres or at home.)	Formal	Direct, formal	Indirect, formal
	Non-formal	Direct, non-formal	Indirect, non-formal

Figure 1.1: Teaching Purposes and Learning Situations for Educational Broadcasting

The broadcasters, for example, may specifically prepare programmes that are designed to be used by teachers in schools to enhance their students' learning in particular subject areas. The programmes are therefore intended for the formal learning situation; there are examples of such programmes in most of the case studies. But the purpose of these programmes may be a direct teaching one, as in Nicaraguan Mathematics and the Mexican *telesecundaria*, or they may have a largely indirect purpose, such as drama programmes designed to stimulate class discussion or to broaden the range of reading interests, as in much school broadcasting in Europe and North America. It is not in fact surprising that the more confident teachers are, the less they will look for direct teaching programmes and the more they will seek general enrichment programmes, with variations, of course, in different subject areas.

Students learning by correspondence and broadcasting, as in the United Kingdom's Open University or the Republic of Korea's Air-Correspondence High School, are also in a formal learning situation, although they study at home. The programmes prepared for them to complement correspondence tuition may sometimes have a direct instructional purpose and sometimes an indirect purpose of maintaining interest and increasing enjoyment of the course.

There are also educational programmes for children and adults that are not related to any specific course. These programmes are designed for non-formal learning, but they may be quite directly instructional, as in teaching literacy, or a foreign language or how to improve crop fertility, or they may again serve indirect learning purposes, by stimulating interest in the development of micro-economics or by building up confidence to improve personal standards of literacy through participation in local classes.

Understanding of these variations is not helped by differences in use of terminology. For example, programmes designed for the formal situation are often described in North America as 'instructional broadcasting', while programmes for non-formal use would generally be included in 'educational broadcasting' or even in 'public broadcasting'. In Europe, both kinds are generally described as 'educational', but the latter sometimes as 'educative'.

As far as the broadcasting systems are concerned, the boundary of educational radio and television is most clearly visible in organizational structures. Broadcasting organizations, both public and private, establish departments for educational radio and television. Occasionally ministries of education establish divisions responsible for broadcasting, and so do universities and other educational institutions. Agencies seeking to educate people who have left the formal educational system obtain production facilities and staff to make programmes and transmit them, in the field of health, agriculture, community development, and so on. Often they create a clearly labelled new section for such work.

To an observer of a given country, therefore, most of the provision for educational radio and television stands out quite vividly. Its boundary is least clear where programmes are being offered to listeners and viewers who are outside formal education. For example, *Sesame Street*, the American series of programmes for children not yet at school, is avowedly educational. *Bellamy Up a Gum Tree*, a naturalist's series on British television, is used by older children and adults to educate themselves, but in most countries where it is broadcast it is without links to the formal education system. There are many similar examples that could be drawn from around the world.

Thus it would be wrong to restrict discussion in this book to educational broadcasting that had been labelled as such, or to broadcasting that serves the formal education system. The case studies in Part Two go beyond these boundaries, offering several examples of television for non-formal education (for example India's Satellite Instructional Television Experiment (SITE) and the Children's Television Workshop (CTW) in America) and of radio (for example Mauritius's programmes for adults).

In general, however, educational broadcasting exhibits four dominant characteristics:

(1) its programmes are arranged in series to assist cumulative learning;
(2) they are explicitly planned in consultation with external educational advisers;
(3) they are commonly accompanied by other kinds of learning materials, such as textbooks and study guides; and
(4) there is some attempt made to evaluate use of the broadcasts by teachers and students.

The term 'broadcasting' covers the transmission of programmes by several types of distribution systems. The commonest of these, particularly in developing countries, consists of transmitters broadcasting from towers to conventional aerials and receivers for radio and television. In some countries, however, educational broadcasters have access to other systems, ranging from satellite and micro-wave systems to closed-circuit cable systems. None of these has been expressly excluded from consideration in this book, but systems that principally use telephone lines or some form of storage such as tapes or records are not normally counted as broadcasting, and therefore are not discussed here.

Growth of Educational Radio and Television Systems

This is not the place for a lengthy historical review, although such reviews have been written for radio and television in general in several countries (see Barnouw, 1966; Koenig and Hill, 1967; Dalton, 1976; Briggs, 1961-79, for examples) and, to a more limited extent, for educational broadcasting in particular (see Powell, 1962; Paulu, 1974; Ministry of Education, Government of Japan, 1969; Waniewicz, 1972; Blakely, 1979). Suffice to say that educational radio rose to prominence in the years before the Second World War, particularly in North America and Western Europe, and that educational television blossomed in the years after that war, as more and more countries adopted television. Within the United States, for instance, many educational institutions set up their own radio stations, as Frost (1971) describes for the years up to 1937. In the same country, over sixty educational television stations were in operation by 1961, according to Powell (1962), built largely out of capital provided by charitable foundations. Schramm, Lyle and de Sola Pool (1963) suggest that non-commercial educational television had its birth in the United States as late as 1954, but that about seven stations a year were added over the next nine years. Across the Atlantic, Western European countries followed a similar sequence of technical development, except that instead of educational stations springing up as in the United States, educational programmes took their place in the context of general broadcasting, using the same studios and transmitters.

The success of educational radio and television in North America and Western Europe caught the attention of international agencies such as Unesco, and of national agencies providing technical assistance to developing countries. Both radio and television appeared to hold substantial promise for countries without sufficient trained teachers and classrooms. The new educational media, as radio and television were often called in the sixties, were introduced in many countries, often with the assistance of a foreign agency. Thus the books written by Schramm and his colleagues, starting with *The New Media: Memo to Educational Planners*, were commissioned in the late sixties when confidence in educational radio and television was high and people in developing countries very much wanted to know about experience elsewhere as they planned their own systems for the first time. The Schramm series offered general descriptions of some twenty projects in as many countries, as well as the analyses of the first volume.

In contrast, this volume is written at a time when doubts have arisen about the best way in which to use educational broadcasting, particularly in developing countries. Western models have not been universally successful when transplanted, and the need for exchange of information between developing countries has increased; in particular, the need for information about organization and management has increased. Hence this book and its emphasis.

Table 1.1: Catalogue of Countries and Territories Known to be Using Educational Radio Programmes in the 1970s

Africa:	Algeria, Angola, Benin, Botswana, Burundi, Central African Republic, the Comoros, the Congo, Djibouti, Egypt, Ethiopia, Gambia, Ghana, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Niger, Nigeria, Reunion, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Cameroon, United Republic of Tanzania, Upper Volta, Western Sahara, Zambia, Zaire, Zimbabwe.
America, North:	Antigua, Bahamas, Barbados, Belize, Bermuda, Canada, Cayman Islands, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Greenland, Grenada, Guadeloupe, Guatemala, Jamaica, Martinique, Mexico, Nicaragua, Panama, St Kitts, St Lucia, St Pierre et Miquelon, St Vincent, Trinidad and Tobago, United States.
America, South:	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guyana, Guyana, Paraguay, Peru, Venezuela.
Asia:	Afghanistan, Bahrain, Brunei, Burma, China, Cyprus, Hong Kong, India, Indonesia, Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Republic of Korea, Kuwait, Lebanon, Malaysia, Maldives, Nepal, Pakistan, Philippines, Qatar, Singapore, Sri Lanka, Syrian Arab Republic, Taiwan, Thailand, Turkey, Socialist Republic of Viet Nam, Yemen.
Europe:	Austria, Belgium, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Federal Republic of Germany, Gibraltar, Greece, Hungary, Iceland, Ireland, Italy, Malta, Netherlands, Norway, Poland, Romania, Soviet Union, Spain, Sweden, Switzerland, United Kingdom, Yugoslavia.
Oceania:	Australia, Cook Islands, Fiji, Gilbert Islands, New Caledonia, New Hebrides (United Kingdom), New Zealand, Niue, Norfolk Island, Pacific Islands, Papua New Guinea, Tonga, Western Samoa.

In 1980, after more than fifty years of educational radio and about thirty years of educational television, where does educational broadcasting stand in the countries of the world? Tables 1.1 and 1.2 summarize the position. Almost every country claims to use either educational radio or educational television or both. In some countries, total provision may amount to no more than an hour or two a week. In others, it may add up to more than a hundred hours in the same period, beamed at a variety of audiences. In a few countries, educational radio and television are still at the experimental stage, serving very small selected groups of listeners or viewers, sometimes numbering less than 1,000 (see, for example, Jamison and McAnany, 1978; Spain, Jamison and McAnany, 1977, for details of radio projects). But in most countries, audiences are counted in tens or hundreds of thousands, and, in a few, in millions. Without doubt, educational radio and television today must be regarded as mass media, instruments of mass education.

Table 1.2: Catalogue of Countries and Territories Known to be Using Educational Television Programmes in the 1970s

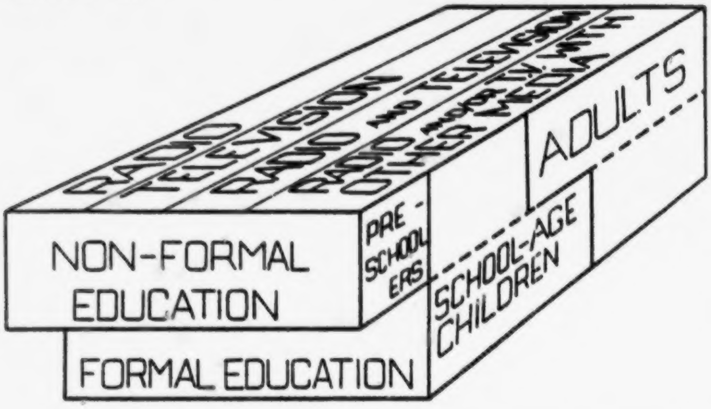
Africa:	Algeria, Central African Republic, Djibouti, Egypt, Ethiopia, Ghana, Madagascar, Mali, Mauritius, Niger, Nigeria, Reunion, Senegal, South Africa, Sudan, Tunisia, Zambia, Zaire, Zimbabwe.
America, North:	Antigua, Bahamas, Barbados, Bermuda, Canada, Cuba, El Salvador, Jamaica, Mexico, St Kitts, St Pierre et Miquelon, St Vincent, Trinidad and Tobago, United States.
America, South:	Argentina, Brazil, Chile, Ecuador, Venezuela.
Asia:	Bahrain, China, Cyprus, Hong Kong, India, Islamic Republic of Iran, Iraq, Israel, Japan, Jordan, Republic of Korea, Kuwait, Malaysia, Pakistan, Philippines, Saudi Arabia, Singapore, Syrian Arab Republic, Taiwan, Thailand, Turkey, Socialist Republic of Viet Nam.
Europe:	Austria, Belgium, Czechoslovakia, Denmark, Finland, France, German Democratic Republic, Federal Republic of Germany, Gibraltar, Greece, Hungary, Iceland, Ireland, Italy, Malta, Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, United Kingdom, Yugoslavia.
Oceania:	American Samoa, Australia, New Caledonia, New Zealand, Pacific Islands.

Note: International statistics on educational broadcasting are difficult to obtain (see Unesco, 1979) and are not well standardized. Countries and territories shown in Tables 1.1 and 1.2 are either listed by Unesco as broadcasting educational programmes or mentioned in other reports as doing so.

It would require an extremely complex taxonomy to display the immense variety that exists in educational broadcasting. Figure 1.2 is a simple model of the educational broadcasting domain, analyzed in terms of: (a) field served (formal and non-formal education); (b) media employed (radio, television and other media such as print); and (c) audiences (by age).

Within each of these three dimensions, a more detailed model could show, for example, the following:

Figure 1.2: A Simple Model of the Domain of Educational Radio and Television



(1) subdivision of the two major fields, in terms of content and purpose of programmes. Formal education is served by programmes, generally in series, in each of the principal subjects learned within the educational system. Non-formal education is served by a much wider range of programmes, from highly structured programmes teaching foreign languages to programmes of general interest, about current affairs, natural history, and so on.

(2) subdivision of the media, in terms of regional or national coverage, types of transmission (open broadcast, closed circuit), means of transmission (satellite, cable, direct transmission), the relationship of educational broadcasting to other agencies (both in broadcasting and in education) and to other media, the internal structure of educational broadcasting, its means of finance, its provision for evaluation and feedback, and so on;

(3) subdivision of the audiences, in terms of age, location, time spent on studying (part-time or full-time), presence of an interpreter, *animateur* or monitor (whether parent, teacher or peer), size of group, interaction with the broadcasters, participation in activities linked to or dependent upon the broadcasts, scholastic achievement and so on.

These are only a few of the categories that could be employed. Only a many-dimensional matrix could contain all, and the number of different combinations that could be derived from them is almost infinite.

There is a real question of who might need such a detailed taxonomy, assuming one could be constructed. Carl Linnaeus, the Swedish naturalist, found his botanical taxonomics invaluable when he wanted to classify and name new plants. But nobody wishes to classify and label educational radio and television systems in such a way. Instead, a detailed taxonomy in this field can do little more than point to systematic variations, without revealing *why* these variations occur. The reasons for differences lie in the context of each system, therefore it is more valuable to study the context.

Educational Radio and Television Systems in Context

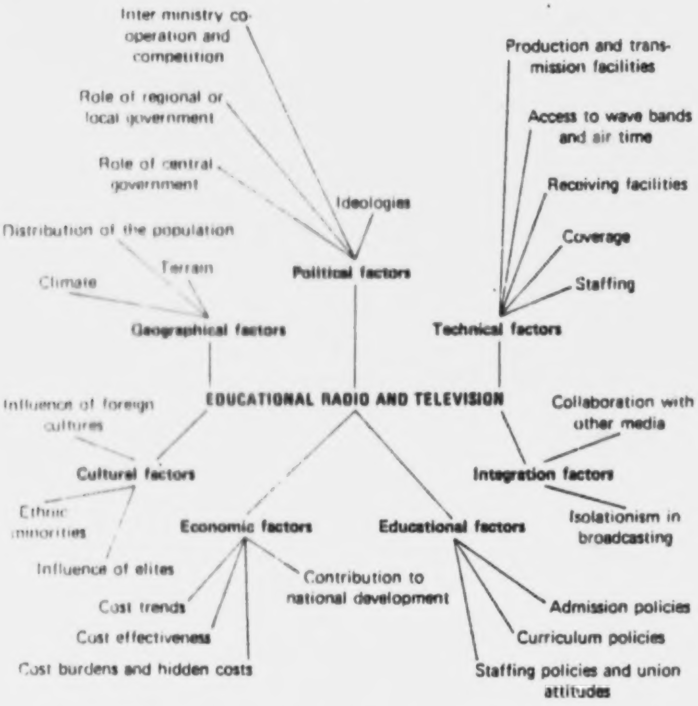
Since these systems are largely, if not entirely, the product of local, regional and national circumstances, particularly the last, it is hardly surprising that they differ to the extent of no two being identical. It is worth while analyzing the factors that influence planning and implementation. Such factors can be considered under six subheadings: geographical, political, cultural, educational, economic and technical. Figure 1.3 is a rough map showing the main components that make up each factor. Together they constitute the context of educational radio and television. This grouping is somewhat arbitrary, but provides fairly complete coverage of the factors.

Figure 1.3 provides the basis in this chapter for a broad review of each factor. Later chapters take up the factors in more detail and contain many additional examples.

Geographical Factors

Terrain and sheer distance are limiting factors for educational broadcasting, as they are for broadcasting in general. Educational radio for Nepal was planned with that country's mountainous nature very much in mind. Indonesia's Palapa satellite has the potential to beam educational broadcasts to many of the country's 3,000 islands, including ones well beyond the reach of existing ground networks. In the Pacific the satellite code-named ATS-1 has provided for some years an educational link between institutions scattered across that wide ocean. In Canada, more than 80 per cent of the population live close to the southern border, yet remote communities in the tundra are also being served by educational radio and television through a carefully planned combination of distribution systems, including at present the satellite Anik-B.

Figure 1.3: A Map of the Context of Educational Radio and Television


Inter ministry co-operation and competition
Role of regional or local government
Role of central government
Ideologies
Political factors
Distribution of the population
Terrain
Climate
Geographical factors
Production and transmission facilities
Access to wave bands and air time
Receiving facilities
Coverage
Staffing
Technical factors
EDUCATIONAL RADIO AND TELEVISION
Influence of foreign cultures
Cultural factors
Ethnic minorities
Influence of elites
Collaboration with other media
Integration factors
Isolationism in broadcasting
Economic factors
Contribution to national development
Cost trends
Cost effectiveness
Cost burdens and hidden costs
Educational factors
Admission policies
Curriculum policies
Staffing policies and union attitudes

These are extreme examples, perhaps, and none of them is beyond the experimental stage. Yet, even in countries with dense populations *and* relatively sophisticated communication systems, terrain and distance must still be taken into account. In some countries, small but densely populated areas may be in the 'shadow' of a mountain range that deprives students there of educational broadcasts, especially television, as is the case even in parts of the United Kingdom where Open University broadcasts by the British Broadcasting Corporation (BBC) cannot be received clearly. In a few parts of the United States, in spite of massive investment there in broadcasting systems, some students find themselves too far away from the station that transmits educational programmes. In that country, the public broadcasting network, which carries most of the educational broadcasting, has only recently been linked across the nation by satellite.

It is a fact that many countries build transmitters so that, say, 90 per cent of the population, including all of the urban population, is well served, but the cost of transmitting to far-flung rural areas is too high, and rural populations are frequently placed at a disadvantage. The Maranhão case study in Brazil (Chapter 19) provides an example of this: in spite of good intentions on the part of planners, only the capital of Maranhão State, São Luis, is to date reached by the television transmitter. In Kenya, educational radio transmitters do not reach the rural districts of the north-east, which are sparsely populated. The United Republic of Tanzania, too, has very uneven broadcast coverage. The political incentive to overcome geographical constraints of distance is too small; therefore students in isolated rural districts have to do without educational broadcasts.

Political Factors

National ideologies have a powerful influence on broadcasting, particularly educational broadcasting. Broadcasting is easily used as an instrument for raising civic and political awareness or for socialization. Decisions to install radio or television networks rest invariably upon political foundations: even a decision *not* to install these networks may stem from ideology, as in the case of the United Republic of Tanzania's attitude towards television in the seventies.

A government committed to increasing educational opportunities cannot ignore the potential of educational broadcasting. Likewise, a government wishing to enforce a new national curriculum, possibly against the inclinations of a minority of teachers and students, may use the unifying effect of television or radio. A government fostering decentralization through local or regional development may turn to regional educational broadcasting to help achieve this aim, as in Yugoslavia, or to serve ethnic minorities within the country, as in Canada. A government seeking to bring about political stability or change by educating the younger generation and re-educating the older will ensure that educational broadcasting contributes to these processes, in harmony with other means.

Government control of broadcasting, particularly educational broadcasting, is strict in many countries, through a variety of agencies. As the case studies show, control may be vested in ministries of education, culture, telecommunications, finance, health, agriculture, industry, internal affairs or, occasionally, in an autonomous body on which there is government representation. One or several ministries may be involved in control. Central government in every country retains some measure of control, although in many states local or regional governments exercise control too. Control takes many forms: regulations of all kinds, often administered by a control commission, censorship powers (whether frequently exercised or not), membership of boards and advisory committees, financial control through annual funding from a government source, and so on. Educational broadcasting, which usually falls in the public sector rather than the private or commercial, is very vulnerable to struggles for control between ministries: the Ministry of Agriculture may be unwilling to co-operate with the Ministry of Health in producing and transmitting community development programmes, or the Ministry of Telecommunications may neglect to consult other ministries with a legitimate interest in proposed changes such as the introduction of satellites. Control of production and transmission facilities is often exercised in an exclusive fashion that deprives possible users of access.

Cultural Factors

Ideology also affects government attitudes towards two sets of important cultural factors: the influence of elites and of foreign culture.

In most countries, the influence of elites is so strong that the 'communication effects gap' is probably widening. This gap is between elites and the remainder of the population. Elites employ communications, including educational broadcasting, to their own advantage more than to the advantage of others, with the result that they enhance their own position, claims Rogers (1974). Thus educational broadcasting may be widening the cultural gap, as elites tend to benefit more than others do.

It is difficult to define elites in a universally acceptable way: their basis may be political, racial, economic or even religious. It is easy to think of modern examples. Education is undoubtedly a way for people to gain entry into elite groups, yet, to the extent that the non-elite class loses its educated members to the elites, that class is weakened in its struggle for social justice.

Such processes of social change, aided and abetted by educational broadcasting, are viewed with varying degrees of favour or disfavour by governments of different ideologies. What is remarkable, as Table 1.1 shows, is that almost every country of the world, of whatever ideology, has favoured using educational broadcasting to foster social change. Governments seem to ignore the possibility that the communications effect gap may be widening, and consider that educational broadcasting is in the general interest. Their concern is far more with content.

Educational television, in particular, and to a lesser extent educational radio, may introduce foreign culture. They may introduce new cultural influences that come into sharp conflict with the old. The Indian satellite experiment (Chapter 12) illustrates this conflict vividly: what is the impact of educational television upon people, children and adults, in villages formerly entirely remote from such influence? The Indian government showed great interest in this question, whereas, regrettably, not enough interest in it was displayed by the United States government years ago when educational television was brought to American Samoa for the first time. Similarly, the Ivory Coast Project (Chapter 8) contains cultural conflict as classroom teachers' authority is challenged by that of the broadcasts, prepared by teachers who are better qualified and, reputedly, more able to teach. In the Ivory Coast, there is also conflict between a national language, French, which is both medium of instruction and vehicle of a foreign culture, and local languages, of which there are many.

The Ivory Coast educational broadcasting project is, of course, a case study of the influence of a metropolitan foreign culture, the culture of a former colonial power, France. Mauritius (Chapter 9) is another example, where both British and French influences have shaped educational broadcasting. In fact, foreign cultures continue to exert influence on many educational radio and television systems because of the former (and even current) dominance of certain countries in the field of educational broadcasting. The case studies of the Republic of Korea (Chapter 11), Mexico (Chapter 17) and Nicaragua (Chapter 18) may not be sufficiently detailed to provide absolute proof of the strong influence of the United States upon educational broadcasting in those countries, yet all contain significant traces of cultural effects, whether in their approach to planning, in their structures, or in their programming. This is hardly surprising when so many of the staff in charge of educational broadcasting systems there have been trained in the United States. Similarly, Canada (Chapter 16) has been influenced by both the United States and the United Kingdom. In Sweden, the *Utbildningsradion* (UR), otherwise known as the Educational Broadcasting Company (Chapter 14) has been influenced by European practice, not least in the United Kingdom, and, to a lesser extent, by North America. All educational broadcasting systems possess uniqueness and their own cultural identity, but within many are clear traces of foreign culture, for better or for worse.

Educational Factors

It hardly seems necessary to stress educational factors. Government policies in education have great impact upon educational broadcasting, both television and radio. Consider, for example, national admission policies in the formal education sector. Who should be taught? Most countries in recent years have returned to their sixties goal of achieving universal primary education; secondary and tertiary schooling, after a decade of rapid expansion, now often receive lower priority in the interest of democratization. Yet the demand for education at these higher levels has not slackened. Educational broadcasting may provide a way to supplement existing provision. The El Salvador project (Mayo, Hornik and McAnany, 1976) was aimed at such supplementation.

Admission policies are not as clearly defined in the non-formal sector, in the sense that participation in, say, a Tanzanian radio campaign concerning health (Hall, 1974) does not require formal admission: all are welcome. Nevertheless, decisions about non-formal target audiences are made on educational grounds in part, and influence educational broadcasting for this sector too.

What is to be learned? Curriculum policy, itself influenced by many cultural factors, also has an impact on educational broadcasting. In most countries, broadcasting organizations and sections of ministries collaborate in attempts to relate programmes to national or regional curricula. Where these curricula are clearly defined, and particularly if they are nationally agreed, it is possible to achieve fairly close integration. But there are examples of countries with centrally controlled curricula where integration has still proved difficult: Chapter 10 on Japan illustrates this. Perhaps the best examples, in this volume, of broadcasting integrated entirely with the classroom curriculum are the Nicaraguan and Ivory Coast projects, yet these are special cases because the classroom curriculum was not the standard one, being specially devised for the projects.

In the non-formal sector the curriculum for educational broadcasting is usually the result of deliberation among interested parties, including the students in some instances. A special curriculum was compiled for the Indian experiment (Chapter 12); the research that went into compiling curricula for the Children's Television Workshop (Chapter 15) is legendary. In both these cases curricula are based on careful consideration of the needs of target audiences. The same could be said about the programming for adults by the BBC in the United Kingdom (Chapter 13), the adult education broadcasts of UR in Sweden (Chapter 14) and the work of the Ontario Educational Communications Authority for adults in Canada (Chapter 16). All use a variety of methods to determine curricula. The older ones have substantial experience in non-formal education to draw upon too.

Who shall do the teaching? Who shall teach in the classroom and who in the studio? In the classroom, staffing policies may dictate that less qualified (and less well paid) teachers shall depend upon broadcasts to instruct students. This is the pattern in the Mexican *telesecundaria* (Chapter 17), where relatively poorly trained teachers are asked to monitor or supervise classes at a higher level than they would normally be expected to handle. These classes are taught by television for part of the day, and the classroom teachers have the tasks of preparing students for the broadcasts and ensuring that they complete follow-up activities prescribed by the broadcasters with the backing of the Ministry. By contrast, classroom teachers are not displaced in the Mexican manner during Nippon Hoso Kyokai's (NHK) broadcasting on television and radio for schools (see Chapter 10). The programmes are intended instead to enrich lessons, and teachers take great interest in learning how to use them for this purpose. On the other hand, teachers are dispensed with altogether in the NHK Gakuen Correspondence High School, except as correspondence tutors. Elsewhere, Ivory Coast classroom teachers are temporarily displaced, like those in the Mexican *telesecundaria*, while television teachers take over at a higher standard (Chapter 8). In Nicaragua (Chapter 18), classroom teachers yield to the radio teachers, again at a higher standard.

Where staffing policies lead to displacement of teachers by broadcasting, sooner or later classroom teachers protest, often through unions that are among the most powerful in the land. In Mexico, the *telesecundaria* classroom teachers sought pay equal to that of their better qualified colleagues who taught at conventional schools of the same level but without television. They did not gain all they sought, partly because they lacked union backing; in the end the government compromised and paid them slightly more than they had been receiving before. Similar problems occurred in El Salvador as a kind of backlash against the widespread introduction of television into the secondary schools. A proposal to use educational radio to replace teachers in Indonesia (Jamison, 1971) was dropped in the face of opposition from teachers and their union. In fact, strong teachers' unions probably make it impossible for most national governments to employ educational broadcasting to achieve economies through replacing teachers, wholly or in part. Teachers' unions, often a strong influence in developing countries, may ensure that educational broadcasting is used mainly for enrichment purposes, at least in the formal sector. Where the power of broadcasting has come into conflict with the power of teachers in the classroom, the teachers have won, with few exceptions. In the classroom, the teachers are still doing the teaching.

In the studio too, teachers frequently do the teaching, for both formal and non-formal sectors. That is to say, teachers are employed as presenters, whether by a ministry of education, by a college with its own broadcasting station, or by a broadcasting organization. This is not to say that professional presenters, actors, famous people and others are excluded from the studio, nor that educational broadcasting consists largely of teachers talking to camera or microphone. But teachers, usually selected for their ability as expositors, play a major role in creating and presenting educational programmes in many countries. They may also give educational broadcasting greater credibility in the eyes of their classroom colleagues. Their influence cannot be ignored: they are the principal collaborators with professional broadcasters, particularly programme directors, yet the two often conflict, as many of the case studies illustrate.

Who shall judge the effectiveness of educational broadcasting? Usually the judges are not broadcasters but educators, at least for the formal sector. Broadcasters set their own standards, and judge their own programmes and those of others by these standards, but the ultimate criterion is student achievement. To judge student achievement is difficult (see Chapter 6) and is not usually left to the broadcasters. In some of the case studies, special teams were set up to carry out this evaluation (for example, in the Ivory Coast and Nicaragua), but fundamentally evaluation is a matter for teachers and their supervisors. Results of evaluation can be used powerfully to influence the future of educational programming.

Economic Factors

If educational broadcasting contributes to national development through improving education, then this benefit may be set against its costs. But does it do so?

The relationship between education and economic growth was assumed for most of this century to be strong. In the fifties and sixties confident assertions came from economists and educators alike concerning the desirability of more education to fuel economic expansion, not least in developing countries. Moreover, the relationship between lifetime earnings of individuals and their level of education was believed to be strong too. Thus education received economic justification in addition to older social and moral justification.

If education fostered economic growth, then surely educational broadcasting, as part of education, could be justified on economic grounds, the more so if it could be shown that broadcasting was a cost-effective way of educating large numbers of children and adults, preferably at a lower *per capita* cost than through face-to-face teaching in classrooms.

Perhaps unfortunately for educational broadcasting, some doubt is now being cast on the strength of the relationship between education and national economic growth. With rare exceptions, developing countries that have devoted large portions of their national budgets to education have not been rewarded by economic expansion. Recent studies of lifetime earnings also cast some doubt on the idea of personal investment in education, although in many countries the generalization that better jobs go to better educated people apparently still holds. In some, the over-supply of university graduates and even of secondary school leavers is notoriously large. Finally, doubt is being expressed about whether educational broadcasting can indeed be justified on grounds of cost-effectiveness except under certain conditions. It is difficult, as Chapters 6 and 7 demonstrate, to ascertain costs and effects, yet both must be considered by decision-makers in reaching judgements about economic factors related to educational broadcasting planning.

It is worth noting briefly here the distribution of costs of educational broadcasting and who bears the burden of them. Rarely do the broadcasters pay, although this is the case in Mexico and a few other countries. In some countries, it is the Ministry of Education that pays broadcasting organizations to produce and transmit programmes. In others, different government agencies provide the subsidy, especially for non-formal programmes. Frequently, however, the full cost does not fall on the 'official provider', because broadcasting organizations or agencies controlling transmission facilities may only charge the marginal cost of providing their services. That is to say, they set their charges at a level lower than that which would be needed to offset *all* costs, including depreciation of capital equipment, administrative overheads, etc. They spread such basic costs across their main production, and charge additional programmes, such as those for education, at the cost of what they have to pay out to make those programmes. Cost-effectiveness studies prior to 1978 frequently included only marginal costs, thus possibly exaggerating apparent benefits from educational broadcasting. Cost analysis of conventional schooling was not very thorough either, however, therefore the degree of exaggeration that existed in comparative studies is far from clear.

In general, costs of educational broadcasting have not fallen at all upon the consumer, that is, the student, whether in the formal or non-formal sector. There are a few rare exceptions in formal education: the British Open University, in charging its students fees, could be said to be recovering a small proportion of the money it pays each year to the BBC to make and broadcast its television and radio programmes. The balance of funds needed comes from government subsidy. The Latin American 'radiophonic' (radio-and-correspondence) schools, operating in the non-formal sector rather than the formal, collect fees too. In Japan, the NHK Gakuen Correspondence High School charges fees. But in all these cases, it would be reasonable to regard the fees as covering the cost of tutoring and perhaps printed material, rather than broadcasting. In no case is the total cost of educational broadcasting met by students.

Costs are increasingly a constraint upon educational broadcasting. For example, although electronic equipment is becoming cheaper (and more versatile) in real terms, technological change can be very costly. The switch to colour in television has implied relatively greater costs, particularly of receivers, compared with black and white (monochrome). This is a serious problem for developing countries: they cannot continue much longer with monochrome equipment because they cannot be sure of obtaining spares, nor can they easily find places to train staff on monochrome equipment. Manufacture of television transmission equipment is concentrated in a few countries. Most developing countries do not even make their own television receivers. Problems of foreign exchange, particularly the acquisition of hard currency, accompany those of rising costs and the international recession in the face of the oil crisis.

Developed countries seem likely to benefit more, too, from the impact of new high technology on educational broadcasting. In Canada, for example, cable television now provides up to thirty-six channels to rather more than half the population, thus to some extent relieving educational television of its need to search desperately for suitable air-time. In the same country, satellites bring health and other community-oriented programmes to remote villages. Video-recorders, video-discs and teletext, using new forms of electronic storage and transmission, coupled with old forms, possess great potential for educational broadcasting, at least in developed countries. These countries are likely to increase their dominance as producers of equipment and programmes; the North-South dialogue will have to be more effective than to date if developing countries are to participate in and benefit from the communication revolution that seems to be occurring beyond their borders.

At present, in the field of educational broadcasting, economic factors create another gap between North and South.

Technical Factors

Educational broadcasting cannot be effective if it has extremely limited access to wavebands and/or air-time. Access to wavebands is a technical problem: the proliferation of broadcasting stations has led to increasing discussion at international level as interference has become greater. Educational broadcasting, particularly where it serves minority groups and small audiences, has not fared well in the debates. Air-time, particularly during peak hours, has become scarcer, under pressure from professional broadcasters to remove educational programmes to times that are inconvenient for students, leaving peak times free for general broadcasting. There is a crisis in public broadcasting, from which much educational programming emanates, as audiences are lost to commercial stations and costs rise. In the non-formal sector in particular, students who have jobs find they have to listen or view in the early morning or late at night. The problem is less severe for students in classrooms operating during daytime, since these hours are usually considered to be off-peak and are more readily released by broadcasting schedule controllers.

There is no doubt that improved recording equipment can offer technical solutions, at a price, to these problems of access to waveband and air-time. The issue that then arises is more economic than technical: who will pay? If a student has to buy a recorder, or even a player of records, of whatever type, this is an additional cost that may deter him from studying. Yet clearly few organizations can afford to provide such equipment to large numbers of students, except perhaps at the basic level of a sound tape-player or recorder. As a compromise, they may install equipment in some central place or places and require students to attend to listen or view, thus losing the advantage that broadcasting possesses of reaching into students' homes.

The search for larger audiences and for economies of scale induces broadcasters, including those in educational broadcasting, to ask for national, or at least regional, coverage. This too may be a technical matter, involving the linking of stations in networks or perhaps the construction of additional transmitters and repeaters. The extent to which educational broadcasting is able to reach its students may have a strong impact on its perceived effectiveness. If some among a body of students cannot receive broadcasts, others may perceive these broadcasts as more or less unnecessary, with the consequence that broadcasters themselves feel less inclined to make programmes that can be deemed essential. To some extent, this has happened at the Open University, which, through problems of access and air-time, is unable to designate as essential the majority of its broadcasts through the BBC.

Another technical matter is control of the supply, operation and maintenance of production and transmission facilities: studios, control rooms, transmitters and so on. Control may rest with those who have little or nothing to do with educational broadcasting. Educational broadcasters may be wholly dependent upon advice from such technical personnel, who may be influenced more by general broadcasting and national communications policies than by those of educational broadcasting.

To an even greater extent, control of receiving facilities, including the availability and maintenance of receivers (whether radio or television) and power supplies lies outside the domain of educational broadcasting. True, there are a few examples to the contrary: the Indian satellite experiment (Chapter 12) offers a case study of attempts to integrate technical aspects and control with all other factors being considered. Another example of massive foreign support, the Ivory Coast Project (Chapter 8), made similar attempts. More usually, however, control rests in the hands of private manufacturers and individual consumers, who must be persuaded rather than coerced.

Choice of transmission systems has significant implications for educational broadcasting. Among the case studies in this volume are examples of several different systems: the direct broadcast satellite system (i.e. broadcasting direct to domestic receivers fitted with special aerials), as recently used for one year in India (Chapter 12), the ill-fated attempt to use tethered balloons to carry high-altitude television transmitters in the Republic of Korea (Chapter 11), the more conventional networks in Mexico (Chapter 11) or Sweden (Chapter 14), and the cable systems of Canada (Chapter 16) and the United States (Chapter 15).

Each system has its advantages and disadvantages from the point of view of educational broadcasting. Direct broadcast satellites can provide immense geographical coverage: Anik-B in Canada spans the whole country, east and west as well as north and south. They can also provide additional channels at relatively low cost compared with terrestrial networks in sparsely populated countries. On the other hand, every receiver requires an aerial that is more expensive than the conventional, or it must be linked to a cable system that has a community aerial feeding signals from the satellite. The extra cost of the special aerial is small when spread across a number of students, of course, but to bring them together when they are widely scattered is to defeat the purpose of direct broadcast satellites, which is to broadcast direct to homes.

Cable television and radio certainly offer to educational broadcasting additional channels and air-time, but they also offer high-quality reception, which can be very important when programmes are of a technical nature in, say, science, or require high-quality reproduction, as in, say, the fine arts. On the other hand, few countries have cable systems that extend beyond a limited number of densely populated urban areas: the cable companies usually wish to offset the cost of laying comparatively short lengths of cable against revenue from a relatively high number of subscribers. Rural areas are at a disadvantage, even where cable systems are more fully developed, as in North America.

Finally, there is the matter of technical staff, who are in short supply everywhere. Appropriate facilities for training are inadequate. Countries receiving foreign aid to install up-to-date educational broadcasting studios and transmitters find themselves without key technical staff to operate the new systems, which are promptly labelled white elephants by politicians – if the teachers have not said it first. Only a few countries offer training schemes. Nationals of developing countries returning home after intensive courses using the relatively lavish facilities of, say, France, Japan, the United Kingdom or the United States, do not easily settle down to being operators of small systems without proper technical support, in countries where it may take years to obtain spares. They rapidly become disillusioned and leave, perhaps to seek employment in the country where they were trained, or in the non-educational sector of broadcasting in their own country. Thus the supply and training of technical staff is often a very real constraint in organizing and managing educational radio and television.

Integration with Other Media

So far, this chapter has dealt with educational broadcasting *per se*, without much mention of integration of broadcasting with other media for educational purposes. Nevertheless, it is vital that planners should take a holistic view if they wish educational broadcasting to have maximum impact. Educational broadcasters can easily become isolationists: they may make and transmit the programmes and ignore what happens at the other end. They may ignore, too, the opportunities for using other media simultaneously, to enrich and reinforce the message of broadcasts. Educational broadcasting has been caricatured often enough as a process of one-way communication.

Against this tendency towards isolationism, it must be said that in recent years a good deal has been done in many countries to ensure that educational broadcasts on both radio and television are integrated into the fabric of education, whether formal or non-formal. For example, most educational broadcasting is now accompanied by printed material of two or three kinds. There are textbooks or work-books for students in classrooms, and guides and schedules for teachers. The intention at least is that teachers will prepare students to listen or view, that students will respond actively during the broadcast and that teachers and students will follow up the broadcast in appropriate ways, if necessary using a variety of media beyond the printed word. In non-formal education, posters, broadsheets, pamphlets, books, records, cassettes, newspapers and magazines may be provided to assist discussion of the broadcasts, which may be radio farm forums and health campaigns or block-busting documentary series on television. Sometimes the listeners or viewers gather in groups to receive the broadcasts, and conduct their discussions with the printed material to hand, as in the United Republic of Tanzania recently.

One of the foremost examples of integration of media exists in the Open University and its analogues in other countries. At the Open University, educational radio and television programmes are tied to print, which is the dominant medium in the University's teaching system. In addition, where appropriate, these three media are supplemented by home experiment kits, audio-tapes, slides, computer-aided learning and so on.

Integration is not without its problems, however. Where television is the dominant medium in the teaching system, it may drain off a disproportionate amount of resources, as in the University of Mid-America in the United States, where a few programmes consumed most of the available money, leaving too little to support other activities in the system. Broadcasting organizations in general appear to have difficulties in allocating sufficient resources to print materials for use with education programmes they broadcast, although there are honourable exceptions. Studio directors, whose future is strongly linked to the quality of the programmes they produce, can be excused for not becoming authors and editors of the printed word as well. Administrators in educational broadcasting must surely take the wider view. NHK in Japan (Chapter 10) and the BBC in the United Kingdom (Chapter 13) have had some success in integrating print with their broadcasts in the formal sector. The Children's Television Workshop in the United States (Chapter 15) is turning more and more towards integration: it now uses many media to supplement and complement its television programmes, and markets them through a very wide range of channels. Its products can be found in bookstores, supermarkets, department stores, toy shops, record and music shops and clothing stores, to say nothing of mail order lists. The Nicaraguan Radio Mathematics Project (Chapter 18) represents a very high degree of integration of just radio and print, since students' progress through the work-books is more or less controlled by the radio programmes.

Integration causes problems for teachers and students as well as broadcasters. Programmes that are linked tightly to texts, for example, must be aired at the right time, or else recorded and used when appropriate. Texts that depend on broadcasts are practically useless if for some unforeseen reason students cannot listen or view. The more tightly integrated the media, the higher the risks of disruption of students' learning. Texts are usually under students' control, except perhaps in some developing countries where they remain under teachers' control. Broadcasts are seldom under student control in any way, and are often beyond classroom teachers' control, except that both students and teachers can turn them off!

In spite of these difficulties, integration of the media seems likely to increase, particularly in developed countries where new forms of storage and transmission of educational information are becoming available at an accelerating rate. There is no doubt that the next decade will see these forms being used for education as well as for entertainment. Text, not necessarily print, will become more closely integrated than ever with the sounds and moving images of television, not necessarily broadcast over the air. Integration will occur not only at the point of reception but also in storage, which will be vastly greater in capacity than at present; therefore, new ways will be found for exploring what it contains.

In the meantime, most countries, especially those of the Third World, are likely to continue using educational radio and television, combined wherever possible with print. This book is about the organization and management of that process.

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1.2. Radio for Development Communication

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chapter 3

Radio for Development Communication

As we have stated earlier, the two premises on which this book builds are that radio is, and will remain for the next decade or two, the single most pervasive means for communication with the majority of the world's population, and, second, that many countries will use this important national resource to promote development goals. The range of goals for which radio has been used is indeed as broad as the range of goals set for the development process.

As governments face the task of communicating to their people the goals and methods of their development programs, they will inevitably consider seriously the nature of the role radio can play, and how they may best incorporate previous experience into planning radio use. This chapter provides a framework for thinking about how to use radio for development communication and summarizes available evidence concerning its effectiveness. Section 1 reviews the *goals* development-communication projects attempt to achieve; Section 2 reviews the effectiveness of different *strategies* for using radio to achieve these goals.

3.1 THE VARIETY OF GOALS

This section categorizes a number of the ways in which radio has been used to promote social, political, or economic goals. The distinction is often made, at least in Western countries, between the informative or persuasive uses of communication, on the one hand, and those that are cultural or for entertainment, on the other. Examination of programming schedules reveals the extent to which it is difficult to make such distinctions consistently. While music seems most obviously to fall into the entertainment category, even there the distinction is often hazy; music with lyrics that express a view about life or even politics can be an important persuasive experience, especially for cultural subgroups like the young. The issue is a difficult one, but for the purpose of economy in the present volume we will limit our examination of radio projects to those that have some stated purpose other than entertainment. We do *not* wish to indicate that we believe the entertainment potential of radio to be unimportant, only that it cannot be treated here.

We have, in Table 1.2, delineated four goals for development communication: motivation, general information, nonformal education, and directed behavior. Let us look at each of these briefly so that when we examine the evidence concerning the effectiveness of different strategies for radio use, we will be aware that in the projects reviewed there are frequently several different goals being pursued. Often a single radio project attempts, either explicitly or implicitly, to attain multiple goals. As a consequence, the evaluation of projects with these intermingled objectives is more because such projects may be relatively successful at achieving one goal but less so for another. Nevertheless, as our list of goals includes the ones that are most often established for projects, study of these will provide the best summary of the success of radio for development.

TO MOTIVATE

A communication system in a society is most often used to reinforce existing values and behavior patterns (such as popular cultural messages in radio soap operas), or to persuade to a new behavior (such as the advertising spots on radio and television). Although there are cognitive elements in such messages, the primary thrust of the content is in the affective or motivational area. Development communication is certainly often devoted to this general goal, whether it is to motivate a country politically toward national unity, or to arouse the public against a common external enemy, or to motivate a group toward a self-development activity.

There are numerous specific examples of how radio has been used to motivate people. Many of the Latin American church-related radio stations, called radio schools (see the strategy of listening groups for more detail), have adopted as one of their primary goals the task of consciousness-raising among poor, rural audiences. White (1977b) speaks of this in Honduras, Cabezas (1975) in the Dominican Republic, and de Kadt (1970) in Brazil. What seems to have happened over the past five years in most development work is that poor, rural people are being called upon to help themselves to change their situation. Whereas before many radio programs stuck to literacy teaching as though learning to read and write were enough stimulus for adults to enroll, now people are being motivated much more specifically to help change their situation through common activity. Working together takes motivation, and radio is helping to provide this.

There are a number of other uses of radio that primarily motivate. Kenya (UNICEF, 1975) uses a humorous 15-minute drama each week to attract rural listeners to think about their families' health problems. The use of dramatizations, soap operas, and stories are all common forms of motivating people to become literate, to participate in a family planning program, or to adopt an agricultural practice. Sometimes programming is created by community members themselves on the premise that such programming will more likely stimulate the audience to listen and participate in the community activities (Hudson, 1977; El Hadj Badge and Robert, 1972; and Gunter and Theroux, 1977).

Finally, national campaigns have been enlisted along with other resources to mobilize large numbers of people (see the campaign strategy). Tanzania (Hall and Dodds, 1977) in its health and food growing campaigns and Cuba in its literacy campaign (Fagen, 1969) used radio as an important part of the motivation or build-up period. These, then, are some of the ways that radio has been used to motivate its audience.

TO INFORM

Information in this context refers to a wide variety of things: local, national, and international news; messages about the availability of social services; and announcements concerning an event of importance to the audience. One of radio's important functions is to inform its audience about what is going on: it serves this role in both high-income and low-income countries.

Radio has played the role of information provider and has even created in rural people the need for more information. In the literature on adoption of innovation, the stage of awareness or first learning about a new idea or method is often best initiated by some form of mass media (Rogers and Shoemaker, 1971).

Some countries have no other feasible way of reaching their rural people with government plans or policies. Botswana, for example, decided to use radio primarily as a means of informing its largely illiterate population of the contents of the first National Development Plan (Colclough and Crowley, 1974).

TO TEACH

Radio can be used to teach—i.e., for nonformal education—in both the basic cognitive-skill area and in the work-skill area. In the present context we wish to distinguish radio's use for nonformal education from the other goals of development communication. Education is a process that uses organized learning experiences to teach abstract, cognitive skills–usually ability to read and write, but also ability in numeracy and a more generalized abstract skill often called learning-to-learn, or ability to transfer cognitive skills to a new learning situation. Simple transfer of information does not imply learning a skill or process but acquiring a product, some concrete bit of knowledge. The work skills referred to in our categories are the more concrete cognitive or psychomotor processes by which someone can better earn a living, be it through skills of bookkeeping or bricklaying. The acquisition of the latter is often said to be the result of training, whereas education is a broader and more encompassing term that speaks of the general cognitive skills as well as the socialization in the values and norms of society. While some of radio's use for nonformal education is directed toward impartation of basic cognitive skills, outside the formal education system its use is more often directed to the teaching of work skills, and we will discuss this goal further.

As we stated, work skills refer to concrete cognitive or psychomotor processes, or habitual ways of thinking and acting that are used in day-to-day life. Several examples are the skills demanded in carpentry, or in the construction of a latrine, or in cooking. Other examples include the skill required to use a certain kind of new seed variety to best advantage, to use a diaphragm in family-planning practice, to keep simple books, to learn a new surgical procedure, or to repair an internal combustion engine. All of these skills have obvious applicability to real problems of everyday life, and one could develop a list of many more. How has radio been able to deal with teaching skills?

The history of skills' development through formal education in low-income countries has generally been discouraging. Technical education is expensive and reaches relatively few people in comparison to needs. Nonformal education's record appears no better (cf. Ahmed and Coombs, 1975; Foster and Sheffield, 1974; Sheffield and Diejomaoh, 1972). Radio has played a limited role in this field for several reasons. The first is motivational. Skills promoted by some radio projects have had insufficient perceived benefits for the amount of sustained effort required, and dropout rates have been high in these radio projects. Second, radio is not the ideal means for instruction in a work skill. Typically, skills of this kind are best acquired through observation and guided imitation in a face-to-face setting, on-the-job or in a school workshop. Moreover, even when skills are needed by isolated rural people and there are few instructors, radio has usually been considered inappropriate for this work. As a consequence, in isolated rural areas, needed work skills are seldom taught by radio or even by any other means.

There have been, however, several examples of attempts to teach work skills by radio, and, where proper supporting elements were included, some success has been achieved. A large-scale experiment in Ecuador using radio alone or radio with audiovisual aids (Spector and Torres, 1963) showed that skills such as latrine making or fruit canning could be taught to a rural audience. Tanzania (Hall and Dobbs, 1977; Dobbs, 1972) has used radio and the simple printed materials to teach latrine building as well as to present some courses in village bookkeeping in a distance-learning approach. Health aides (Kreimer, 1977) in Alaska and primary school teachers (Kinyaajui, 1977) in Kenya have been given in-service training.

Thus, although the record of radio has been somewhat spotty in supporting acquisition of work skills, a careful review of an appropriate strategy may indicate greater scope for radio than the overall record would suggest.

TO CHANGE BEHAVIOR

Changing behavior is the most difficult goal to achieve of the ones outlined in this series, yet it has a great importance for the typically isolated rural dweller. Radio provides the only reliable communication system that reaches large portions of rural populations in many countries. A strong station whose signal reaches most of a country's territory will often substitute for a nonexistent, rural telephone system. Once or twice a day such a station will typically devote 10 to 40 minutes to official announcements for isolated people. The message might be from the Ministry of Education asking certain teachers to attend a meeting the next day in the capital, or from the Provincial Government to the mayor or chief of a village about an administrative matter, or from the health agency announcing a vaccination schedule in rural clinics. Such announcements are not simply the provision of general information, but usually guide behavior in some way.

Other examples reinforce the notion that radio can substitute for the telephone, the newspaper, and the mail system of many rural and even urban areas. Hudson (1977) relates how a two-way radio system among widely dispersed, Sioux Indian villages in Canada was used for giving instruction, calling meetings, or settling business. Tanzania (Hall and Dodds, 1977) used radio as the only feasible means of instructing rural dwellers on how to vote for the first time. Kreimer (1977) provides the most precise case, where a doctor gives health-care instructions to a rural health aide in Alaska by two-way radio. A radio spot in Ecuador (Manoff, 1975) announced to rural people why they should use iodized salt in their diet. Radio can more effectively provide exact instructions or directions for behavior change when few people are involved and they have a two-way capacity, but even where instructions are for large masses of people and the message is one-way only, radio often functions for instructing people in certain behaviors.

We have discussed four goals for development communication: to motivate, to inform, to teach, and to change behavior. The section that follows describes several strategies for using radio to reach these goals, and reviews the success of experience with the various strategies.

3.2 RADIO STRATEGIES FOR DEVELOPMENT COMMUNICATION

As we have noted, this chapter is devoted to reviewing the evidence on audience coverage and on a number of different strategies or organizing modes for using radio.[1] For each strategy, we will use one case study as the primary example to illustrate the potential of radio and we will try to summarize other evidence about the strategy from the existing literature. Our purpose here is to present cases to illustrate the variety of experiences with different ways in which radio has been used, to examine the evidence critically about the actual level of success attained, and to assess the potential of different approaches where changes and improvements can be made.

OPEN BROADCASTING

This strategy encompasses a broad variety of experience. What distinguishes it from other strategies is the primary emphasis it puts on the message. Although the audience may be well defined in an open-broadcast project, there is no attempt to organize listeners or to put much supporting materials in their hands. The amount of interface with other organizations that will carry on more direct contact with listeners will vary according to the nature of the project. To summarize the characteristics of many open-broadcast projects we could say that they are message-centered; typically reach people in their homes; do not attempt to teach complicated concepts or behaviors, but rather to motivate and get across modest amounts of information; and are often geared to some simple behavior change. *Sesame Street* for television might be the clearest example of an open broadcast program for the reader to keep in mind as s/he continues this section.

Gunter and Theroux (1977) have summarized many of the advantages of this approach in their paper on the subject. Let us summarize their suggestions and then present two more cases that illustrate the open-broadcast approach. The authors' basic assumption is that the mass entertainment media of most countries attract and educate much larger audiences than do most typical, educational broadcast programs. They suggest that development-communications strategists adopt a more creative approach to their work, and devote more time and money to improving program quality and attracting larger audiences for educational radio. They argue that many development objectives can be achieved without the expenses of organizing an audience. They cite three examples of how radio might achieve valuable learning results.

First, the authors review advertising and its possible application to education, which they call "edvertising." Second, they talk of audience participation in program production, and finally, of a specific example of an educational quiz show.

The authors review advertising principles and argue that these can be adapted to the achievement of educational goals. Commercial radio advertising takes as a basic principle that it must motivate the audience to listen. Educational radio tends to assume that this motivation already exists and, therefore, does not use persuasive techniques. Perhaps this is because it has had a captive audience in schools for so many years. Gunter and Theroux believe that this motivation cannot be assumed. They suggest short radio spots using advertising techniques for educational purposes, but do not cite any cases in which this approach has been used.

Gunter and Theroux cite a second approach of open broadcasting that creates programs that are community controlled and participative. In a small Andean town in Ecuador, a local radio station experimented with using cassette recorders to create audience-made programs. The idea was to have the rural people record their own programs. Local helpers were given recorders and asked to meet with people in their areas and record meetings, entertainments, discussions, and complaints, and then give the tape to the local radio station to edit and play in one or two half-hour community programs.

This method for creation of open broadcast material is both relatively cheap and appealing to its audience. People speak about what concerns them and communicate ideas, information, and entertainment to a large number of their fellow citizens. This approach they call participative programming.

As a final example of educational programming for a non-organized audience, the authors refer to an educational quiz show developed and tested at the University of Massachusetts. In a laboratory setting, the quiz-show format showed a superior learning gain for participants over those who learned by a lecture method. They argue that this format can stimulate audience attention and continued interest for learning.

If one were to summarize the main arguments of Gunter and Theroux favoring this strategy, they might be: better, more creative programming will motivate people to attend to and learn from radio messages; investing in better programming will capture a larger portion of the potential listening audience and, therefore, will be a better investment of funds than concentrating on a much smaller, organized audience; and creative programming can break traditional, passive ways of learning and get more people to participate in their own learning. It is important to keep in mind that most radio projects outside the formal schooling sphere depends on the good will of a volunteer listener. The participant can always drop out or turn his radio to another station. This is especially true of open-broadcast programs. This makes audience interest of such vital importance for this strategy.

Two arguments advanced have backing from other evidence sources. First, the analogy with advertising calls upon the considerable evidence that advertising can use mass media to change the amount of knowledge, the attitude, and most importantly, the behavior of an audience. No evidence is cited for the educational effectiveness of "edvertising" but the argument that if soap or beer commercials work, then literacy or health commercials might also work, seems reasonable.

The second analogy in the Gunter and Theroux argument is the power of good entertainment to motivate and to teach.

The best example is the soap operas or *novelas*, as they are called in Latin America. There is no doubt about the large audiences that these programs attract all over the world. There are some studies on their effects on audience attitudes and values (e.g., Colomina de Rivera, 1968). Many educational broadcasters have argued that the *novela* format would be an excellent educational medium. Two examples can be cited. One, a television soap opera from Brazil (D'Arinos, 1975) teaches basic education to adults, apparently with some success. More recently a Mexican educational soap opera has appeared on television. During the early months of its airing it got one of the highest ratings for viewership of all programs, commercial or educational. The commercial producers of the programs make their money selling advertising, while the Secretary of Public Education organizes part of the listening audience. Although no hard evidence exists, it is reported that 260,000 adults have signed up for classes organized around the program.

A radio program on health in Kenya is reported to be one of the most popular programs on the air in 1975. Whether or how much it teaches has yet to be determined, but a survey conducted after its first year of existence indicates a large audience even in rural areas (UNICEF, 1975). Another rural radio program in Guatemala (AED, 1976) seems to have made a clear contribution to knowledge, attitude, and behavior change. The experimental project distinguished between organized and unorganized listening groups, and preliminary results indicate that open broadcasting had clearly superior results in comparison with controls, and showed even some relative advantages over the organized approach.[2] What seems evident from examples like these or from *Sesame Street* is that educational programs can have mass appeal, and that there is reason to believe that radio can attract a large listening audience in rural areas of developing countries if programming makes an appeal to audience interest.

A second example of this strategy comes closer to the Gunter-Theroux example of "edvertising." The Manoff advertising agency has been experimenting with short, radio-spot announcements to help improve nutrition in low-income countries. The attempt is to create messages centered on one or a few specific behaviors and, with the use of reported and varied messages over a period of a year, to change listeners' knowledge, attitudes, and especially behavior. The first project in Ecuador (Manoff, 1976) had a variety of problems, but showed a significant impact on the awareness, knowledge, and attitudes of a large rural audience. Behavior was more difficult to change, but in one practice, the use of iodized salt, behavior did shift significantly over 15 months. Similar projects in the Philippines and Nicaragua are underway. Preliminary results in the Philippines indicate improvement in behavior concerning nutritional practices.[3] What seems important in this example is that brief radio spots can apparently change eating behavior without an organized-audience context for persuasion. The messages are carefully made, the objective is specific and instruction simple, but the audience is voluntary and listens at home. No materials are supplied and no backup from health agencies is called for directly in the home.

A final argument of Gunter and Theroux is that the open-broadcast approach reaches far greater audiences than do the organized-audience approaches. Good programming, it is maintained, will reach a much larger audience and have a relatively greater impact than the same amount of investment divided between programming and field supervision for an organized audience. There are two requisites to confirming this argument. First, in an open-broadcast approach it is necessary to assess the level of listenership and, with more difficulty, the amount of impact the programming is having. The examples we have provided appear to speak to the first criterion of audience coverage, at least. In the cases cited for Mexico, Kenya, Ecuador, and the Philippines, there have been audience surveys that indicate a wide listening audience, certainly much wider than the usual numbers participating in organized-audience efforts. The second question of impact has only been measured thus far in the case of the nutrition campaigns. The evidence indicates a positive impact on audience awareness, knowledge, and attitude. There is less evidence for behavior change, but indications are that given the right objectives and conditions, simple behavior can be changed.

What conclusions can we make about the strategy of open broadcasting? The examples given were mostly positive, but there is much more experience of failure than of success in using radio to reach and to educate an unorganized audience (McAnany, 1973; Arana, 1971; Spain, 1971). The criticism of Gunter and Theroux, however, seems to be well taken: emphasis on the quality of the message and concern about its broad appeal is a likely way of improving the reach of the message. The development goals to be achieved are a critical element in the choice of strategies. If the objectives involve informing people, making them aware of an issue or motivating them to change a relatively simple behavior, then the open-broadcast strategy is a potential use of radio that is attractive for development communication.

Two questions remain unanswered regarding this strategy and will be treated further. First is the question of the cost of this strategy, and of the comparison of cost with the reach and impact it has, especially in comparison with other strategies. Second is the question of feasibility, or of how difficult it is to make such a strategy succeed. The first question is addressed in Chapter 4, the second in Chapter 5.

RADIO CAMPAIGNS

The second strategy, radio campaigns, is between the open-broadcast and the organized-listening-group approaches. It has a number of historical predecessors, including the organized discusion group in Sweden and the mass-mobilization campaigns common to socialist countries such as the People's Republic of China and Cuba. There are few examples of campaigns in which radio has played a predominant role. The Tanzanian case to be outlined has made a unique contribution in combining radio and discussion in campaign format. Some of the distinguishing features of a radio campaign are the following: its concentration of effort into a relatively short period of time; its focus on the achievement of one or a few well-defined goals that have broad appeal; its efforts to motivate and involve a large portion of the population in its activities; the organization of a listening audience during the campaign period; the long preparation for the campaign and the need of coordination of many insitutions for its success; and the role of public support for the campaign goals. Other features make the campaign similar to other organized groups' strategies: radio's use for publicity of the activity, organized listening groups with trained leaders, printed supporting materials, and regular programs once or twice a week.

The radio campaign on which most of this section is based originated in Tanzania about a decade ago and much of the evidence comes from the half dozen radio campaigns created during the intervening years. Since Hall and Dodds (1977) have summarized much of the experience in the 1973 health campaign, a reporting of their findings seems appropriate. Before turning to more detailed consideration of the Tanzanian experience, we should note the results of a recent survey by Leslie (1977) of evaluations of the use of mass media in nutrition education. She reports on seven projects that use radio, five of which are campaigns (including one in Tanzania); Table 3.1 summarizes her findings on those seven projects.

The Tanzania Radio Campaign. Hall and Dodds trace the beginnings of the method to the combination of a radio effort by the Institute of Adult Education, and a correspondence course developed for members of local cooperatives by the Co-operative Education Centre. Reaching the scattered, rural-adult population was a shared goal of both groups. They began with an experimental, radio-study-group campaign in 1969 with about 20 groups and less than 1,000 participants,

TABLE 3.1
Evaluations of Radio's Usage for Nutrition Education Campaigns

Description				Available Evaluation Measures					Findings
Project	Media	Objective	Duration	Out-reach	Knowledge Change	Behavior Change	Health Status Change	Cost	
The Stanford Three Community Study (U.S.A.)	Radio and television	To reduce dietary risk factors in cardiovascular disease	A two-year campaign, 1972-1974	No	Yes	Yes	Yes	No	Fat consumption decreased by about 25% for all experimental groups but did not change for the control groups. The increase in knowledge of dietary risk factors was greatest for media plus face-to-face instruction.
The North Karelia Project (Finland)	Radio and newspapers	To reduce dietary risk factors in cardiovascular disease	Ongoing, begun in 1972	No	Yes	Yes	Yes	No	The fraction of males consuming low-fat milk increased from 24% to 62%. Distribution of leaflets by mail or newspapers was more successful than by schoolchildren.
The Trinidad and Tobago Breast-feeding Campaign	Radio and newspapers	To reverse the decline in breastfeeding	A six-week campaign June-July 1974	Yes	Yes	Yes	No	No	86% of recently delivered mothers were aware of the campaign. Mothers who were most aware of the campaign delayed introduction of supplementary bottle feeding.
Advertising Technique Nutrition Education Campaign (Ecuador)	Radio and posters	To increase breastfeeding and to increase use of iodized salt	A 15-month campaign, 1974-1975	Yes	Yes	Yes	No	Yes	Knowledge of legumes as a protein source increased 45%. Reported use of iodized salt increased from 5% to 98%.
The SUNAB Project (Brazil)	Radio and newspapers	To encourage consumption of nutrition foods in accordance with changing agricultural flows	Ongoing, evaluated for the year 1974-1975	Yes	No	No	No	No	Of the sample surveyed, 26% were aware of radio messages and 22% were aware of newspaper advertisements.
The Tanzanian "Food is Life" Campaign	Radio and booklet	To improve nutrition through improved techniques of agriculture and food preservation	A 16-week campaign, June-Sept 1975	Yes	No	No	No	No	The broadcasts reached three million adults, although only half that number was projected. Some progress was made in eliminating food taboos.
CARE Mass Media Nutrition Education (South Korea)	Radio and comic book	To improve nutrition through knowledge of five food groups	A one-year campaign in 1970	Yes	Yes	No	No	No	The broadcasts reached almost 90% of the sample interviewed and the comic book reached 80%. 20% of those interviewed had learned the five food groups.

SOURCE: Leslie (1977, Tables 1 and 4)

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studying a popular version of the new five-year plan. In the following year, a larger effort was made, and about 200 groups were formed throughout a wider portion of rural areas. This campaign was stimulated by the national elections. It was decided to provide a 2 to 3 month study period for citizens to teach them about the electoral system, and to make them politically aware of their rights and duties before they were to vote for the first time in their history. Two more campaigns are described, one in 1971 concerning the history and achievements of Tanzania on the tenth anniversary of its independence. This was the first truly nationwide campaign, with about 1,500 to 2,000 groups and over 20,000 participants. The campaign in 1973, called Man is Health, shifted to a mass level with 75,000 groups and about 2,000,000 adult participants, and emphasized not only study but action. A closer look at the health campaign will provide evidence for the effectiveness of the approach.

Hall and Dodds in their summary provide an important historical perspective in showing how the campaigns grew from a small experiment to a national mobilization, and in discussing the elements that were important to this successful growth. They point out three features that were common to all four campaigns: the series of radio programs (usually one each week for 2 to 3 months), the printed materials (a text for literate participants, plus a manual for group leaders), and the organized study group with a discussion leader (the latter usually a primary schoolteacher, but in the health campaign often a local farmer). There have since been refinements over the five years covered in the report. Later campaigns rebroadcast programs. A fifteen-minute introduction was added to the radio program to provide music, poetry, and announcements relevant to the campaign and to allow a "gathering time" before the main program began. Group-leader training grew in importance and complexity. To train the 75,000 leaders for the Man is Health campaign required a carefully coordinated, three-stage training of three days each, where each group would help train others. Greater participation in terms of total numbers has been achieved, but it is recognized that sometimes large discussion groups limit the active participation of members.

Two other important features of campaigns are noted. First, there is in addition to the actual campaign of about 12 weeks, a planning period where the relevant ministries define campaign objectives, prepare appropriate written and radio material, and launch an important publicity campaign (including radio and poster announcements). Second, the Institute of Adult Education must get the collaboration of various ministries and agencies for planning as well as for recruiting and training group leaders.

The campaigns since 1970 have always attempted to provide some evaluation of results. These evaluations have grown in size and sophistication with the campaigns, but still they remain rough estimates of results. The single most impressive fact is that for the health campaign in 1973, about 2,000,000 rural adults participated. In the same campaign, the authors report a 47% gain on a knowledge test from pre- to post-test; also, participants gained significantly more than controls. In terms of action, Hall and Dodds estimate that about 750,000 latrines were constructed, and many less easily discernible public-health measures such as boiling drinking water or clearing away mosquito breeding areas were adopted. In a sample of participant villages, there was a 60% improvement in health-related practices.

The reported costs are very crude estimates, but in the health campaign the total cost estimate was $610,000 or about $0.47 per participant. Swedish aid contributed $210,000 of these costs.

The authors point to the following positive features that have emerged in the campaigns: multi-institutional coordination has been achieved, but this could not have happened without the strong political backing from the central government the campaigns have enjoyed and the increasingly long periods of careful preplanning (18 months lead time for the health campaign); the short period of the campaign seems to have achieved a high audience-retention rate; the impact of the campaigns has gone beyond the direct participants and has involved others in the actions advocated by the government. There are several problems to be faced in these campaigns: for example, the failure of the distribution of printed materials at times, the lack of feedback and follow-up mechanisms, and the lack of highly trained leaders who might, as subject matter experts, immediately answer participants' questions. There is very little doubt that the Tanzanian campaigns have demonstrated how radio can be integrated into wide-scale learning experiences that have a significant impact on rural areas.

The experience of Tanzania with campaigns is impressive. On both criteria of reach and impact, the radio-campaign strategy seems to have succeeded quite well. Examining only the health campaign, the 2,000,000 adults involved in the discussion groups is an unprecedented figure for such development projects using mass media. The relatively careful documentation of impact is also impressive. There is evidence for a low dropout rate, a high participation rate in discussions, and an acceptable amount of learning and follow-on action. Hall and Dodds point to several particular advantages of the radio-campaign strategy: first, its power to mobilize such a large number of people; second, the discussion-learning method that does not have the teacher as information-giver of the group, but a local person simply trained to lead the discussion; third, the peculiar fit between the strategy and Tanzanian-defined development goals stressing mobilization, popular participation, and a self-help approach to achieving them.

Implications outside Tanzania. Several critical questions need to be raised lest one success story create the impression of a universal panacea.

First, do most low-income countries have development goals that are related to the strengths of the campaign approach? The amount of mobilization and the level of participation achieved in Tanzania may rest on circumstances peculiar to Tanzania, or at least to its political goals as a socialist country. Many governments do not share the same political model with Tanzania. The mass-mobilization-campaign approach has been common to many socialist countries, but there are few cases where such an approach has been used in nonsocialist countries outside wartime mobilizations in many countries. Botswana (Colclough and Crowley, 1974) is a nonsocialist country that is trying to recreate the same radio strategy for purposes of development. They are in the midst of their second campaign, but no clear evidence is yet available on the outcome.[4]

Second, it is not clear how many governments are interested in mobilization of rural masses through such a campaign approach. Can there be such a high level of participation without mobilizing people?

Third, can most governments agree on national campaign goals and get the collaboration of a number of agencies in the planning and execution stages? It seems that the more usual case is for a large campaign to be the work of a single government agency. Moreover, when interagency coordination is called for, failure often stems from the central government's inability to overcome the bureaucratic isolation of its own institutions.

Having said all this, we return to the evidence from Tanzania and the descriptions of efforts in Botswana, and we suggest that the strategy is a promising approach for using radio to achieve change. There is reason to believe that radio campaigns can achieve limited but concrete goals, perhaps short of the broad social mobilization achieved in Tanzania (Schnitman, 1976). We are not yet sure of the outcomes of this strategy in the nonsocialist development context, but the time is ripe for a good test of its viability.[5]

REGULAR LISTENING GROUPS

The regular-listening-group stategy consists of a combination of radio messages, broadcast on a consistent schedule, usually with some printed support material, and a group organized to listen to the broadcasts together and, subsequently, discuss them or share some common learning experience. The meeting may result in group decision and/or common action as a consequence of the discussion. There is a rich variety of experiences of this kind, and the following sections will analyze three of the more prominent organizing methods.

The Radio Schools. The radio school is a form of organized listening that originated in Colombia thirty years ago, and that has spread, as the map showing the regions served by Latin American radio schools indicates, to many nations in Latin America. The radio schools began when the originator, a Catholic priest, began to broadcast religious and educational messages to his scattered parishioners. Gradually he began to send out written material and finally to pick and train a group leader or monitor to hand out support materials, answer a few questions, and be a feedback person from the group to the production center. As the system spread, the organization became more complex (see Brumberg, 1975), but the essential group learning mechanism remained unchanged. The important element that distinguishes the radio schools from the other listening group strategies is its continual commitment to teaching literacy and nonformal education skills. Although radio schools also later included farm practice and agricultural innovation in their goals, like the farm forums to be discussed, they remain primarily dedicated to their original educational goals. Again, we may distinguish most regular listening groups from the radio-campaign strategy because the former create and maintain their groups on a permanent basis, while most campaigns only create ad hoc groups for the brief duration of the campaign.

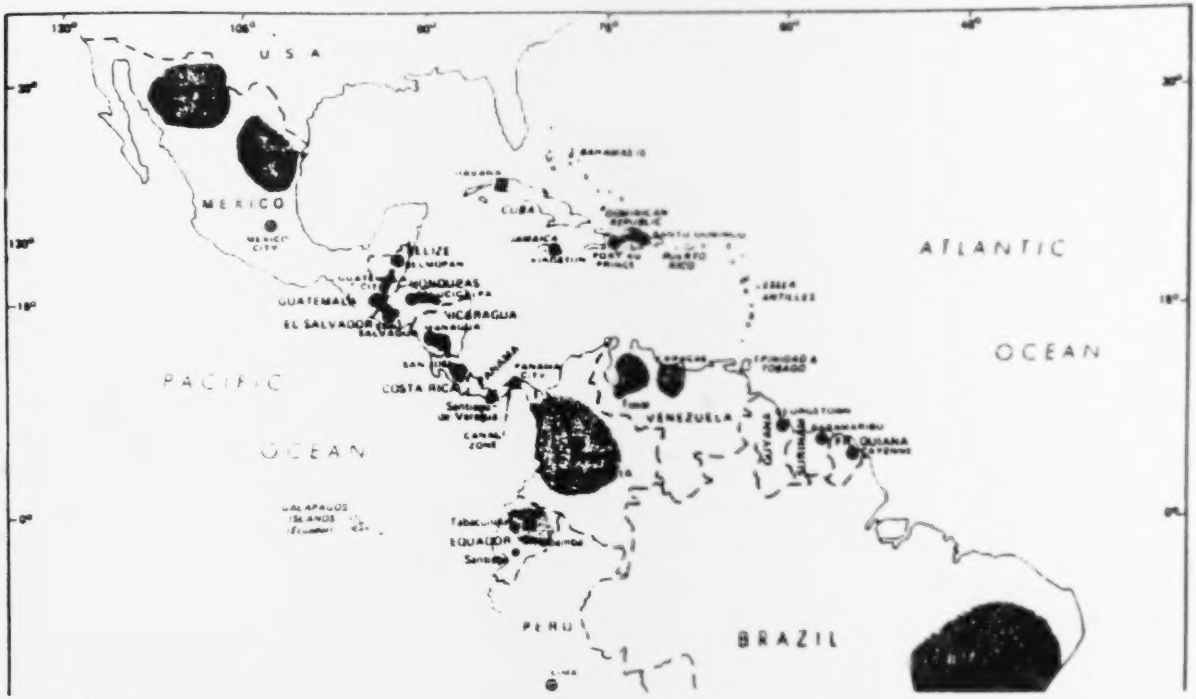
The case we will use to illustrate radio schools is not the original and most commonly known example of ACPO (Popular Cultural Action) of Colombia, but an offshoot, ACPH (Popular Cultural Action of Honduras). White (1976b and 1977b) undertook a long-term evaluation of ACPH, and our summary comes from his findings.

White provides an analysis of ten years of experience of both ACPH and its companion *campesino* organization, the Popular Promotion Movement (PPM). Founded in 1961, the radio schools of Honduras were an almost direct copy of the Colombian ACPO model. However, as White notes, there has been a gradual evolution in both goals and structure of the organization over the last 12 to 15 years, so that from the original emphasis on literacy, there followed stages of Freirian consciousness-raising, community organizing, and finally a more action-oriented, pressure-group phase of pushing for greater social and economic power for the *campesino*.

The author asks three research questions in his study: (1) whether the ACPH/PPM has been *effective* in achieving immediate objectives in promoting skills in literacy, health, and agriculture, and in raising the consciousness and organizational capacity of its audiences; (2) whether these goals, if accomplished, are *relevant* to the *campesino*; and (3) what in the ACPH/PPM strategy contributes most to rural development in rural Honduras?

White begins with an historical analysis of the traditional power base in rural Honduras. He traces the large landholder as the key power holder and link with the urban elite. He also points out that with the coming of "modernization" to Honduras after World War II, and the greater concentration of land and technology in the hands of large landholders, the *campesino's* level of subsistence worsened. During the 1960s the ACPH and the PPM began working in literacy, health, and agricultural areas as well as to raise the *campesino's* consciousness and to help him organize to work for improving his lot. White's evaluation attempts to discover whether these organizations succeeded in their goals and whether such success in turn made a difference in the quality of the *campesino's* life.

White evaluated the effectiveness of the literacy work of the radio schools for the 10-year period (1961-1970) by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GUATE CITY
HONDURAS
TEGUCIGALPA
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SAN SALVADOR
SAN JOSE
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PANAMA CITY
Santiago de Veragua
CANAL ZONE
PACIFIC
OCEAN
GALAPAGOS ISLANDS (Ecuador)
CARACAS
TRINIDAD & TOBAGO
VENEZUELA
GEORGETOWN
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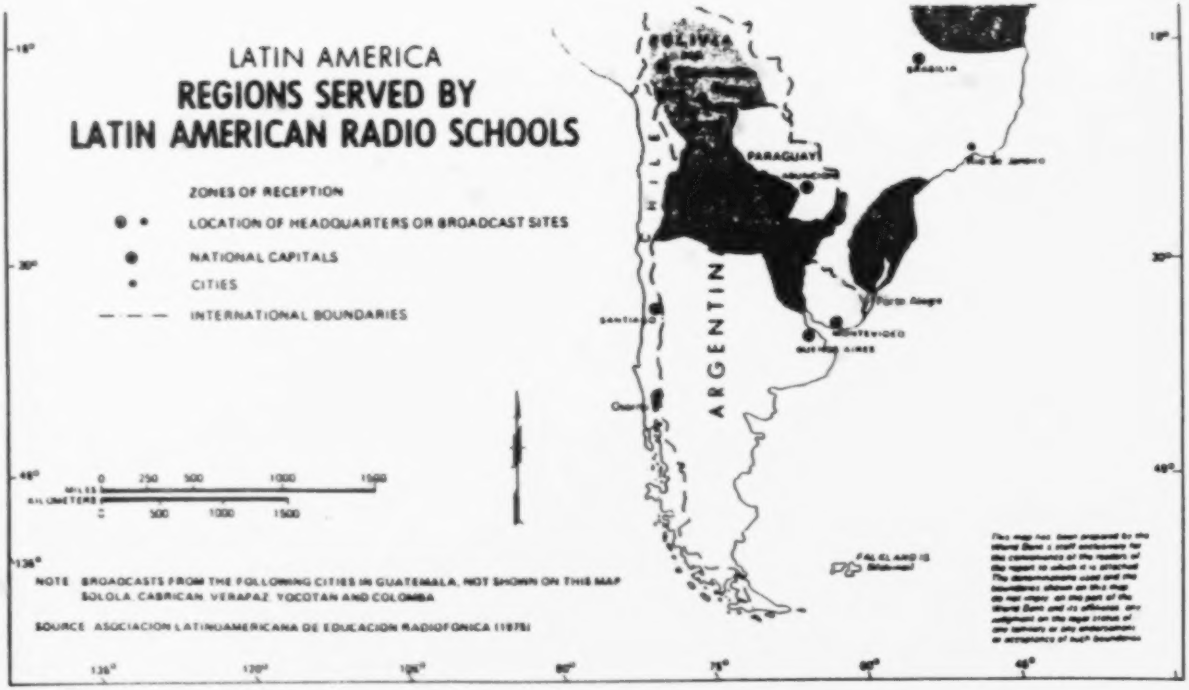

LATIN AMERICA
REGIONS SERVED BY LATIN AMERICAN RADIO SCHOOLS

ZONES OF RECEPTION
● • LOCATION OF HEADQUARTERS OR BROADCAST SITES
● NATIONAL CAPITALS
• CITIES
— · — · INTERNATIONAL BOUNDARIES
BOLIVIA
PARAGUAY
CHILE
ARGENTINA
BRASILIA
Rio de Janeiro
ASUNCION
Porto Alegre
MONTEVIDEO
BUENOS AIRES
SANTIAGO
Osorno
FALKLAND IS.
MILES 0 250 500 1000 1500
KILOMETERS 0 500 1000 1500
10°
30°
40°
135°
120°
105°
90°
75°
60°
45°

NOTE: BROADCASTS FROM THE FOLLOWING CITIES IN GUATEMALA, NOT SHOWN ON THIS MAP: SOLOLA, CABRICAN, VERAPAZ, YOCOTAN AND COLOMBA

SOURCE: ASOCIACION LATINOAMERICANA DE EDUCACION RADIOFONICA (1975)

This map has been prepared by the World Bank's staff exclusively for the convenience of the readers of the report to which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the World Bank and its affiliates, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

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drawing a sample of 595 students or ex-students of ACPH and testing them in literacy and numeracy skills. He found that many students in radio schools had had one or more years of regular school and that this seemed to make more difference in literacy attainment than time spent in radio classes. ACPH had a 45% dropout rate, reached 107,715 students in 10 years, but seemed to have benefited only about 10% of the population in a significant way in attaining permanent literacy. White argues that the PPM policy after 1972 to organize *campesinos* and pressure government for land and other resources should make literacy more relevant to the Honduran *campesino*. He concludes that increased power for the *campesino* is likely to increase his interest in literacy, rather than the attainment of literacy is likely to increase his power.

In health and agricultural knowledge and practice, White found the radio-school villages were higher on knowledge in both, but that only in health were they higher in practice as well, when compared with nonradio-school villages. Again, he believes the lack of success of ACHP/PPM in making a difference in farm practice was because knowledge without resource inputs does not help the farmer improve his life. He points out that the women's household clubs in villages, begun by PPM in 1967, may have helped women to implement health practices better than similar organizations were able to help men in agricultural practices.

The author tried to do a comparative study of the consciousness-raising process, examining the village's knowledge of organization principles and its ability for collective action. He found a higher level of consciousness in radio villages than in nonradio villages. He did not find greater organizational skills in radio villages, but he did find that radio villages had carried out more community projects than nonradio ones. Still, he observes, when, because of increasing land scarcity, *campesinos* began more pressure tactics to obtain land, the radio schools did not seem to prepare them for this kind of directly political work.

He concludes that the ACPH/PPM, using radio and the communication network of village leaders, has helped to create the basis of a new *campesino* culture; it has helped develop a participatory decision-making structure and helped develop a base for interest-group action.

The author asks how the accomplishments of the radio schools helped overall rural development in Honduras. He concludes with some generalizations growing out of the study: (1) structural change is more important for promoting adult education than is adult education for promoting structural change; (2) to be relevant and successful, adult education must be closely integrated with resource delivery and other, rural-development efforts; and (3) consciousness-raising (awareness of problems and consequent value changes) is only effective with solid bases of power in increased economic productivity and *campesino* organization.

A review of the radio schools (McAnany, 1975) more generally concluded: "The positive features of the radio school approach in Latin America for nonformal education are several. First, radio schools have historically always focused on the *campesino* audience in rural areas where learning needs are greatest. Second, several features of their approach fit in with important learning principles: the group-learning approach; multi-media instructional methods (radio, printed booklets, newspapers, and audio-visual aids) coordinated around learning objectives; supervision by a local person who can relate to and motivate the learning group. Third, the radio schools have been built up on an already existing and important structure in rural areas, the parish church. The priest is an important legitimizing factor that has helped radio schools survive in the rural areas where the power structure is generally oppressive to *campesinos*. Fourth, the radio schools, by being mostly private and church sponsored, have been free of identification with the government and its policies.

"There are, however, some negative features that also must be faced regarding radio schools; several have already been mentioned. First, the heavy emphasis on literacy seems to be a misdirection of effort. There is a much wider range of information/education concerning rural areas that may well need to precede literacy and may best be conveyed by radio and through the monitor of listening groups who presumably would be literate. Second, radio schools often do not involve themselves in community development, claiming to be strictly educational. The Freire critique of such a 'banking' kind of education would suggest that the education learned in radio schools be applied to real problems of *campesinos*. There is a tension here, of course, between attacking real social problems and remaining in business. The experience of MEB in Brazil suggests that careful consideration of consequences of social action is necessary. Third, until now the radio schools have remained relatively small and their impact on rural life limited. These results may be partly due to lack of proper financing, but may also come from poor planning and management of the existing projects. Fourth, radio schools may have lost their appeal for real change in rural life and may be seen only as another half-hearted attempt by the power structure—this time the church and not the government—to give *campesinos* the minimum of social services so that they are satisfied with their position in society. There is some evidence, moreover, that even in rural areas the relatively better off are the most likely to benefit from such services. Finally, the major efforts of radio schools seem to be focused on the mass media messages without giving sufficient attention to feedback from rural groups in order to reflect their needs and interests in the messages."

The number of people radio schools are now reaching varies according to the particular project. ACPO in Colombia reports more than 150,000, by far the largest. In comparison with what other projects are doing for the rural adult in Latin America, the radio schools are reaching a significant number and their potential for greater reach is primarily limited by financial constraint. The effectiveness of this method of organizing the audience varies according to the goals being prepared and the particular project in question. The White evaluation is critical but not negative toward the strategy. Other evaluations of radio schools (McAnany, 1975) suggest that if the strategy can be properly supported and the administration is well organized, the radio-school approach can achieve a great deal for nonformal education and other development goals for rural adults.

The Radio Farm Forums. According to Rogers and his colleagues (1977) "a radio forum is a small listening group that meets regularly in order to receive special radio programs, which members then discuss. On the basis of the program and discussion, they decide what types of relevant action to take." The last part of the description distinguishes the radio farm forums from the radio-school approach just reviewed. The radio forums are usually decision groups geared to a group action; the radio schools are usually learning groups, but sometimes they make common decisions for action as well. The other way in which these two types of radio listening groups have been distinguished is by their origin. Historically, radio forums began in Canada among farmers and were spread to India and then to a number of other Asian and African countries through the sponsorship of UNESCO. As we saw, the radio schools were begun and have spread primarily in Latin America and have been usually sponsored by the Catholic church.

Although Rogers and colleagues (1977) do not concentrate on a single case, they present the relevant experience from the best-studied cases. The constituent elements of radio forums are the organizers who establish and help serve the forum, written discussion guides, regularly scheduled radio programs, and regular feedback reports of both discussions and group actions, as well as questions, to broadcast programmers. The basic advantage of the forum idea is its multimedia approach of combining the mass medium of radio with the interpersonal communication of group discussion and feedback through the monitor. The authors argue that neither radio nor group discussion alone can have all of these advantages.

A number of different radio-forum experiences are briefly presented with main results. India's use of forums began with a highly successful experiment in Poona where forum members learned significantly more in ten weeks than individual listeners or those who did not listen at all. When the forums were spread nationwide shortly afterward, the experience was not as positive, probably because the new forums did not experience the same national attention, the forums went on for years instead of ten weeks, and the financial and personnel support were a great deal less than in the experiment. A similar experiment was tried in Ghana where similar positive results were found during the initial period. No follow-up report was made on forums outside the experimental period.

The authors conclude with a number of generalizations about radio forums. Among others are: radio is the single mass-media channel reaching the widest rural audience; radio needs to be supplemented by other media such as printed and audiovisual materials; radio has the advantage (over television) of being able to reach specialized rural groups in their own language; greater effectiveness seems to lie in a small number of themes that are featured over a relatively brief period in an integrated manner; forums seem to be effective with illiterates as well as literates; radio forums are more effective when group leaders have a basic training in leading discussions; forums are compatible with village experiences and cultural preferences; and feedback from forums can help to change government perceptions about what rural people need.

It is possible to draw certain basic conclusions from the long history of radio farm forums. What seems common across these experiences is both the structure (radio, small organized group, group leader and secretary, discussion and group decisions) and the general results (usually an advantage in learning and action of group over individual listeners to radio programs). The authors admit that there is not sufficient evidence to prove that forums are an effective strategy in every case, but that potentially the combination of interpersonal and mass communication can be effective, especially in increasing knowledge. What seems evident from the experiences in India, Benin, and Indonesia, where large field tests of forums were made, is that the problems associated with capitalizing on this potential are formidable. Essentially, it is much easier to organize the radio message than the audience. In all three cases the eager recruitment of new groups was not sufficiently followed up with supervision and distribution of printed materials. Moreover, feedback often failed, and groups whose sole contact was the radio message itself often disappeared quickly after formation.

The settings in which some of the large-scale tests of farm forums were created suggest, perhaps, that the strategy was not sufficiently integrated into other rural-development processes. India expected the radio forums, without other supporting activities, to create change. Although still prevalent, this belief in the sufficiency of radio forums by themselves has been undermined by lack of significant change in most rural areas. A great deal of skepticism has since overtaken development planners as well as mass-media experts.

To date, the evidence is not overwhelming but perhaps encouraging. The potential reach is quite large as both the Indian and Indonesian projects (Rundfunk und Fernseh, 1974) show. In their expansive phases each had several thousand groups organized. Their relative failure at this point does not invalidate their potential for reaching large segments of rural people. The clearest evidence of impact is in learning. It seems clear that farmers exposed in groups to agricultural information can and do learn more than farmers who listen to radio by themselves, or those who do not listen at all. The Guatemalan Basic Village Education Experiment, however, showed some advantages for radio alone over the organized audience (AED, 1976). This is not an insignificant finding for rural areas that are overwhelmingly agricultural. Technical information about farming is still a crucial input to improved agricultural practice and increased productivity.

Obviously, changed behavior must follow, but information (knowledge) is a prerequisite to action. One may argue quite accurately that change in rural areas must go much beyond improved agricultural techniques, to land reform and change in basic social structures. But no radio strategy outlined in this essay will be sufficient to accomplish this by itself. The farm forum experience has demonstrated that the radio, combined with the interpersonal communication of the group, can help to improve knowledge and practice. If other structural changes have been accomplished, then radio has the potential of helping improve agricultural productivity. If such changes are not made, as White points out about Honduras, then increases in agricultural knowledge and even in practice may not make much difference in the lives of poor farmers.

The Radio Animation Groups. This strategy again is a form of organized listening groups. We wish to distinguish it from the other two organizations of groups discussed above. The technique of animation grew out of a French tradition of group dynamics that was applied to development projects in the early 1960s, especially in Africa (Colin, 1965). The classic animation approach had clearly distinct historical assumptions from both radio schools and farm forums. At least in theory, the animation approach stressed the participation of the community in defining its own problems, the nondirective nature of the social animator's role, the degree of awareness necessary for the community to recognize its problems, and the self-help nature of its development action. In practice, many of these elements are not emphasized in radio projects in Francophone countries, and many of the original goals of animation have been partly adopted by other listening-group strategies, thereby blurring the distinction.

It may be worthwhile, nevertheless, to review one case of the animation approach. Cassirer (1977) has prepared a rather lengthy description of Senegal's rural radio project. In 1968, Senegal, through UNESCO sponsorship, began radio broadcasts for rural groundnut farmers in the regions of

Thies, Diourbel, and Sine Saloum. Fifty-seven radio clubs were established for the pilot area, but many more were informally created during the following years. Cassirer's paper traces the history of Radio Educative Rurale (RER) from 1969 through June 1971, with an added postscript in March 1975.

The very severe conditions of the peasants in the groundnut area during 1968-1970 provided an important historical backdrop for the form in which RER evolved. A creation of joint efforts by various ministries (Information, Education, Health, Rural Development, Agricultural), the radio was conceived as a two-way system. Two-thirds of the programming in this period (1969-1972) contained material recorded in the field, and thus allowed input from the peasant audience itself. In addition, President Senghor backed the creation of a written feedback system called *Disso* (or "dialogue" in the national language), which solicited letters from rural people concerning their problems. These letters were translated into French, printed, and distributed to relevant government officials every three months. In the first two and a half years of the project 2,300 letters from 500 villages were received.

The strong, critical response of the farmers in the groundnut areas in the first years made some government officials wish to stop the radio programs and the feedback. One minister made a tour of rural areas where radio had prepared rural audiences for what to expect in his set speech. They demanded action and got it in the form of cancellation of credit debts.

The schedule of two radio broadcasts a week to rural listening groups has continued for a number of years. The broadcasts provide technical information concerning agriculture, health, credit, and other aspects of rural life. The input of local audiences, as well as the written feedback, makes the project unique. The fact that the project is now fully funded with national resources and has expanded into other areas with locally adapted programming is an indication of its success in Senegal.

A preliminary cost study by Trabelsi (1972) was incorporated into the Cassirer historical account. Since the study provided little detail and made no comparisons with other radio systems, the figures are less meaningful than they might have been. Cassirer argues that radio is a relatively cheap substitute for some work that extension agents often do. He does not argue for complete substitution of radio for these personnel, only that once capital costs are amortized, more intensive use of radio to reinforce activities of rural workers would be quite attractive economically.

The author draws three lessons from the experience: a rural broadcasting system like the RER takes a great deal of effort as well as political help to create (given in this case by the president of the country); a project of this kind is not excessively costly and can be economical if it functions to its capacity; and the programming that allows audience input and encourages dialogue is more important than the content of broadcasts.

If one of the principal objectives of the animation strategy is to promote participation, the Senegal case seems to have achieved that at least at the beginning of its work. There is evidence of strong peasant response to the government invitation to send letters concerning problems peculiar to the countryside. The government translated and published these letters for circulation to government officials. Although it is not clear whether this dialogue measurably helped the peasants' lives after the first crisis of debt repayment was resolved by the government, still the creation of such a mechanism between peasants and government through radio is promising.

The evidence from the Senegal case and that of Niger (El Hadj Badge and Robert, 1972) indicates that the animation method can have a significant reach. One limit to this is the amount of local participation that the project allows. In both Niger and Senegal there is an attempt to localize programming and direct input of participants into program production. This principle followed to its logical conclusion would mean a local radio station for each community. Lack of resources has limited the number of local stations and thus the amount of local participation in both Senegal and Niger.

What impact can such a strategy have? The evidence from Cassirer is inconclusive. There is evidence that a number of farmers did participate and the program is reported to be still very popular among rural groups. There is evidence from other sources that programming in their first language has special appeal to illiterate peasants. Both Senegal and Niger have provided such programming. The dialogue that the Senegal project promoted between government and peasants did have some impact on government decision making, at least during the early period. One questions whether the same attention is given peasant input once the crisis is past. The danger is not only indifference of government officials, but the manipulative possibility of giving peasants the impression that by having their letters printed and circulated among officials something is being done about their problems.

More generally, the strategy faces four problems. First, the nondirective nature of the animation approach can mean endless dialogue and little action. Second, local participation must be defined for each radio project and examined for its feasibility and its eventual impact on rural life. Too vague and ideal a notion of participation may be counterproductive to achieving concrete gains by the participants, as White points out in the Honduran radio-school case. Third, participating with the government may contain serious dangers of co-optation by the power holders who are inclined to short-term solutions. Collaboration or confrontation is often a serious strategy question for development-project leaders who solicit and gain popular participation of large masses of rural people. Finally, the desire of localization manifested in the two cases we have mentioned means that radio often loses some of its advantage as a mass medium and becomes more like a local telephone system or a community radio station.

The promise of the strategy, however, makes it worthwhile to promote for those development goals that involve participation.

THE TELECOMMUNICATION/ TWO-WAY STRATEGY

Radio in its broadcast mode is ordinarily a one-way medium. To achieve a number of development goals that call for more direct participation of rural people or depend on immediate feedback, a two-way communication system would have significant advantages. Radio in this strategy would operate more like a telephone system, but with multiple interconnections. Given the right kind of technical and social planning, a radio system can be designed to serve both telecommunications and broadcast purposes (Parker and Lusignan, 1977).

How has the telecommunications use of radio worked in a development context? We will review two cases to illustrate its potential. There have been relatively few development projects that have used this strategy, and further cost and effectiveness data need to be gathered.

The first case is Kreimer's report (1977) on the use of the ATS-6 satellite to provide a reliable signal in a radio-based health project in Alaska. The main endeavor involved about 25 remote villages in one health district in rural Alaska. Ten villages were provided with small, satellite ground stations to help improve the technical quality of two-way radio contact between native health aides in villages and physicians at the regional hospital. Aides in other villages were contacted by a terrestrial HF radio system. Bad climate conditions had impeded use of the regular system to less than 15% of the possible contact days. Locally selected, paid, and supervised aides are given only 16 weeks training and can benefit from consultation with trained personnel in handling cases in their remote villages. The evaluators assessed the impact of improved radio contact in the ten participating villages over a two-year period from 1971 to 1973. Evaluation questions included whether better reliability would increase aide-physician consultation, whether aides would change their care of patients, whether aides would find increased contacts helpful and reassuring, whether increased contact and consultation would change health care (and improve health), and whether hospitalization rates would change.

The purpose of the Alaska health-care delivery service was straightforward: to improve the reliability of the two-way radio signal and thereby increase the likelihood of use of the consultation service between health aides in distant villages and doctors in the central hospital. Certain results were clear. In the first 2 years of the improved reliability of radio contact, consultation in the experimental villages increased almost 500%. There were, in addition, increases in cases treated and confirmation by doctors that, in their opinion, health care had improved.

The second case, reported by Hudson (1977), was set in Northeast Ontario, Canada. There was a long-standing need expressed by native peoples in the area for better communication, and the Canadian government provided a two-way radio system to interconnect all 25 villages of a Sioux tribal group. Hudson found that when two-way radio equipment was installed in the villages, the uses to which the system was put included administrative affairs of the tribal council, weather, news, and personal contact between families and friends. There were immediate benefits to the participants in the system. Chiefs of the area used the radio to carry out the work of their regional council and thereby saved time previously spent in travel from one village to the other (usually by plane). Increased information flow and contact with other native communities was made easier. This increased exchange among people speaking the same language and sharing the same culture, and helped to defend the minority culture from being eroded by the dominant white culture. The formation of a local group to help manage the radio may be the first sign of how the introduction of a technology may help to stimulate community cohesion. This, in turn, may point to the role of two-way radio in promoting greater political unity among minority groups. Finally, Hudson emphasizes that unless communication technology is under the control of the users of the system, genuine access may not be available.

There is no question that use of two-way radio will grow along with the increasing sophistication of technology, especially with satellites. What conclusions are suggested from these two experimental cases? One point seems clear: people have a range of information and learning needs that communication technology can serve. These needs are most often for exchange of information that may be necessary for various aspects of development. Use of radio, and especially use for development, will depend on the level of awareness of the community. If it has already developed a series of well-defined goals, both political and informational, that better communications can serve, then the level of use and the efficiency and the effectiveness of the system is probably assured. These conclusions obviously depend on further testing, and on better observation and measurement of results over longer periods and in different settings.

Two more examples might be briefly mentioned. Hudson, in the previously mentioned study (1977), also reports on the use of a low-watt radio station as a stimulus to community development among an Eskimo group in Northern Canada. Her argument is that in this kind of very isolated community, a local radio station in local hands provides more control over messages coming into the community and a stimulus to the community for common action to solve problems and organize people.

The final example is one dealing with the use of two-way radio in nonformal learning groups. Clark (1972) reports on a study group in a land-development project in Malawi. The idea was to have different adult listening groups (in this case learning English) in the region be able to ask the radio teacher questions. Unfortunately the experiment was not carried out very carefully and no conclusive results were available. It seemed clear, however, that students liked the opportunity to ask questions directly of the radio teacher. It is not clear that learning was enhanced. The limit on numbers of groups participating in such direct interaction poses some question about cost in this case.

Let us examine these cases of the two-way radio strategy in the light of the two criteria of reach and effectiveness. First, there is an inherent limitation of reach in the case of two-way radio. The advantage of the telephone is that it substitutes for face-to-face communication and can often serve the same purpose. But a mass medium like radio can reach many people simultaneously. The cases under review here have failed to resolve the trade-off dilemma of either reaching more people, or having a more functional two-way communication opportunity. In Hudson's two-way case, 25 Sioux villages were served; in Alaska, Kreimer's case involved 14 village health aides who conferred regularly by radio with doctors at a distant regional hospital. Nevertheless, indirectly through health aides and village chiefs, these systems served moderate populations. Parker and Lusignan (1977) argue that with better technical planning a flexible radio system can be created that could serve both broadcast and two-way purposes.

The effectiveness of two-way radio depends on the particular development goals to be served. Kreimer's and Hudson's cases indicate a clear demand for two-way systems in their respective areas. Health aides in Alaska want a chance to consult with doctors about their patients and take the opportunity when it is offered. The two-way system among the 25 Sioux villages was heavily used for a number of purposes. These are only pilot projects, however, and further evidence will be necessary to examine two separate aspects of two-way radio communication. The first is one of cost. How expensive will an operational system be for remote rural areas? What kinds of demands will the creation of such a service put on the regional or national system in terms of more sophisticated and centralizing hardware such as satellites? Second, more evidence is needed on the social relevance of two-way radio. Will the availability of telecommunications for rural areas increase genuine social participation and to what extent will it bring economic advantage to traditional marginal areas? The answer to these questions should grow out of improved evaluation of the demand for telecommunication that communities feel and the continued experimentation with different ways of providing telecommunications services to meet development goals.

NOTES

1. McAnany (1973) and Evans (1976) have previously discussed these matters, organizing them in a somewhat different way.

2. A final report on the Eastern zone of the project (AED, 1977) contains evidence of a more conclusive nature. Radio certainly contributed significantly to knowledge and adoption of new practices. The relation between these changes and increased production remains less clear.

3. Cooke and Romweber (1977), in a final report on the projects in Nicaragua and the Philippines, claim that the radio messages changed awareness, knowledge, and even behavior in the areas intended. The claimed behavior changes, though substantial, are self-reported and would probably be difficult to document statistically. Cooke and Romweber also provide a valuable discussion of the methods used in their radio advertising approach to nutrition education.

4. Cf. a recent paper by Crowley and Kidd, "Radio learning group campaigns in Botswana." This paper was prepared for International Extension College's Workshop in Distance Teaching and Rural Development, Dartington Hall, U.K., 1977.

5. Cuca and Pierce (1977) describe the use of mass media campaigns involving radio to promote family planning and contraceptive use in Iran (pp. 154-156), South Korea (pp. 182-183), and Taiwan (pp. 214-216). Open radio broadcasting was tested in Colombia (pp. 103-104). These efforts seem to have been successful.

1.3. Radio for Development Communication

from: Dean T. Jamison/Emile G. McAnany,
Radio for Education and Development.
SAGE Publications. Beverly Hills/
London 1978, pp. 136-140

6.2 RADIO FOR DEVELOPMENT COMMUNICATION

Our discussion of radio's use for development communication focused on the experiences of a number of projects that used differing radio strategies for four basic purposes: to motivate audiences, to inform them, to teach them cognitive or work skills, and to change specific items of behavior. The principal strategies for attaining these goals are open broadcasting, radio campaigns, and radio programs tailored to organized listening groups. Two-way radio has also, to a lesser extent, been used to reach these goals. Table 6.2 summarizes our assessment of how well the different radio strategies can

TABLE 6.2

Goals and Strategies of Radio for Development: Effectiveness and Reach

		Effectiveness in Reaching Stated Goal				
				To Teach (nonformal education)		
Radio Strategies	Reach	To Motivate	To Inform	Cognitive Skills	Work Skills	To Change Behavior
Open Broadcasting	High	4	5	1	1	2
Radio Campaigns	High	5	2	2	1	3
Listening Groups	Medium	4	3	3	2	4
Telecommunications (two-way radio)	Low	5	4	2	3	2

NOTE: A value of 1 in the table indicates low effectiveness; a value of 5 indicates high effectiveness.

be expected to perform for each of the four purposes; the table rates performance both in terms of how wide a reach the strategy has and in terms of its effectiveness.

Table 6.2 indicates that, as radio strategies for development communication become more closely committed to organizing their listening audience, the more limited their reach becomes. Thus, open broadcast needs only to concentrate on getting out an interesting message, but the listening-group strategies (radio schools, farm forums, radio animation) must expend resources and time in organizing and providing materials for their audiences. However, the more heavily organized strategies clearly have advantages in promoting more complex and long-term changes among their clientele. The conclusion is not to force a choice of any one strategy on communication planners, but rather to make them aware that radio can be used in a variety of ways, for a variety of goals, and that the objectives of the development project should best dictate the choice of strategy.

But let us go one step beyond this general conclusion to review briefly some cases where radio has achieved its goals with special success. Four examples come to mind: The Kenya health broadcasts (UNICEF, 1975), the nutrition radio campaigns (Manoff, 1975), the Guatemalan agricultural-information programs (AED, 1976), and the Tanzania radio campaigns (Hall and Dodds, 1977). Let us consider the strategy in which radio was used, the development goals, the project achievements, the special characteristics that make the approach most promising, and conclusions about its usefulness for the future.

The Kenya health program, already described in Chapter 3, has achieved a large audience among both urban and rural audiences. Its health messages are carried in humorous format to many households that otherwise would have had no exposure to the educational purpose it espouses. It has achieved three of the goals that Gunter and Theroux (1977) have advocated for the open-broadcast strategy. It reaches a large audience, at a low weekly cost, with entertaining and educational health messages. There are no impact data, but an audience survey indicates that audiences are listening. Radio can be enlisted in a positive and inexpensive way to reinforce the important work of health or nutrition.

The Manoff nutrition radio campaigns are another illustration of the open-broadcast approach. The evidence is inconclusive, but the repetition of the experience in several countries is beginning to illustrate the viability of the idea that advertising techniques and research can be used to change behavior in socially important areas like nutrition, and not just for selling consumer products.

The Guatemalan Basic Village Education Project has shown that careful programming, closely geared to the audience's interests, can win the attention of a large rural audience and create change as well. The programs provide agricultural information that is precisely geared to the timing of the crop cycle. Thus the information, in addition to being accurate, is also highly relevant and is therefore more likely to be applied. The audiences are organized in part of the project, but there is evidence for high learning gains and innovation adoption even among nonorganized audiences.

The first three cases illustrate several points: that radio can play a role in such important development areas as health, nutrition, and agricultural productivity; that it can attract a wide audience and get its messages across without necessarily organizing its audience; that in two of the cases it effects behavior changes as well; and further, that this has been done at reasonable cost. This evidence would seem to indicate that most countries could make better use of a national resource like radio to pursue important development goals.

The last example is one of a radio campaign; review of the Tanzania experience brings out some of its potential. The large number of people that the Tanzanian campaigns have been able to mobilize (2,000,000 adults in 1973) dramatically indicates that the strategy has potential for reaching large audiences. Costs in Tanzania have been modest, and there is no reason to think that they need be much higher elsewhere. Mobilizing large groups to action, as was done in the health and food-growing campaigns of 1973 and 1975, does take careful planning and control, which may be difficult to achieve in some countries. This strategy calls for an organized audience, but not one that is of long duration where people lose interest or drop out.

Reviewing all of the cases, we conclude that radio has a generally untapped potential for development communication. There are a large number of cases where this potential has been frustrated by the constraints that operate both within and outside the medium. On the whole, however, we conclude that most countries could more deeply exploit the opportunities radio provides. We hope that the examples of the cases we have cited will challenge countries to greater use of an old resource for accomplishing some of their new development tasks.

NOTE

1. Two other major projects have used educational technology to extend schools–one was also in Mexico (Mayo, McAnany, and Klees, 1975) and the other in Brazil (Arena, Jamison, Oliveira, and Orivel, 1977). Both of these were much more successful than the radio projects we have just discussed; they differed from the radio projects in using television, in teaching secondary rather than primary school students, and in having firmer official commitment to their success.

1.4. How can Radio be Usefully Applied to Education and Development?

from: Hilary Perraton, The Educational
Use of Mass Media. World Bank 1981,
pp. 53-71

CHAPTER IV

HOW CAN RADIO BE USEFULLY APPLIED TO EDUCATION AND DEVELOPMENT?*

To decide whether and how to use radio for education in Less Developed Countries (LDCs), decision-makers must consider the evidence on radio's effectiveness and then look at how radio can be linked with other media, particularly with print. These imperatives call for an examination of practical experience using radio for development and education, of the general role of broadcasting in development, and then of broadcasting's place in education both in and out of school. Last, they lead to consideration of various styles and formats of programs of radio and of other broadcasting media.

Can Radio Teach?

Radio's place in education depends on two of radio's features. Radio communicates through only one of our senses and its signals are broadcast--in the literal as well as specialized sense of the word. Since we can tell nothing about the expression or attitude of the radio speaker, we might expect to lose something vital in a communication process based on hearing only. Yet, when radio was being developed for use in education in the 1920s and 1930s, the comparative effects of teaching by radio and in the ordinary classroom were studied extensively, and most such research found no significant differences in the results of the two methods. Similar results were found in Trenaman's research on adult learning. In short, Trenaman found, "the physiological means of perception is itself only of small importance in the communication of ideas; what counts is the situation in which communication occurs--the reading and listening habits of the respondent and the character of the subject matter in question." Given an environment conducive to learning, ample evidence shows, people can learn from radio. Moreover, little evidence suggests that they will learn less effectvely, or more, from radio than from other media. Indeed, according to communication theory, if conflicting signals are sent simultaneously through different channels, the signals are likely to interfere with each other and learning suffers, so perhaps radio's power to concentrate attention compensates for its being limited to one channel of communication.

In practice, it is radio's capacity to distribute information that has led to its use for education. From the 1920s it has been used to inform and to motivate a large public audience. And for almost as long, it has been used for the smaller, more specific, school audience. Mary Sommerville, who started BBC schools broadcasting in Britain,

> "saw the new medium ... placing at the disposal of the teacher an instrument that would neither do his work for him nor even share with him the burden of his straighforward curricular teaching. Its task would rather

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* This chapter was written by Hilary Perraton.

> be that of bringing to every child in every classroom a kind and quality of experience that would otherwise be unattainable. The task of the school broadcasting service that she created was to enlist the inspired speaker who could share with children an enthusiasm or an idea, the traveller with a tale to tell, the journalist in touch with the news of the day; the skilled and imaginative scriptwriter, and the first-class professional performance of music and drama. (J. Scupham, *Broadcasting and the Community*).

Radio was first used in education to bring new resources into the classroom. It was soon also used to take the classroom to students outside the school's walls; in Australia and New Zealand, it was used to reach remote and isolated students who could not get to school. And in both Britain and North America, radio was used in the 1930s to teach listening groups of adults, a practice taken up and used with greater effect in the 1940s in the Canadian farm forums. More recently, radio has been used to carry the main burden of teaching basics to students who would otherwise have no formal education at all.

Thus, radio has been used to distribute public information, to enrich ordinary classroom teaching, and to extend education beyond the classroom walls. The experience of all this work confirms the theoretical and experimental studies that show that radio can teach.

A Multi-Media Approach

Radio teaches best when it is linked with other media. (See Chapter One.) Hence, its role is best considered in conjunction with that of other media. While it can be analyzed from a variety of perspectives, five categories seem to cover most applications.

Broadcasting for development. Many broadcasting stations, especially those run as government or public service stations, have seen radio's central functions as broadcasting about development and molding public opinion about development. But broadcasters and politicians alike regard them as important, they take up many hours of broadcasting time, and they cannot be excluded from a discussion of broadcasting and education.

The other four categories all concern what has often been defined more narrowly as educational broadcasting. Each represents a type of support that broadcasting provides, rather than a different sector of education. Here, the types are considered in order of the complexity, simplest first.

Open broadcasting. Open educational broadcasts are those in which no attempt is made to teach the radio audience except through the broadcasts themselves. The function of an open broadcasting authority is simply to produce and transmit programs, not to control the conditions under which they are used, or to supply supporting material, or to organize learning groups.

Broadcasting with print support. Somewhat more complicated than open broadcasts are broadcasts linked with print so that listeners, teachers, or group leaders can have a permanent reference document on the same subject as the broadcasts. Many school broadcasts, for example, are supported by teachers' notes.

Broadcasts with print and feedback. The step beyond print-supported broadcasting is broadcasting enhanced by regular and systematic feedback from listeners, often through their enrollment in correspondence courses linked with broadcasts.

Broadcasts for groups. Finally, educational broadcasts with print support and learner-feedback mechanisms have been used to teach groups of adults. Under this arrangement, the groups provide feedback while the broadcasting authority or an associated institution helps establish and support the learning groups.

The appropriateness of each of these broadcasting modes varies with the educational sector. Thus, each must be examined in relation to schools, to vocational education out of school, to programs for equivalency (in which adults or children outside school work for the same qualifications as are available within), and to rural education (generally on agriculture, health, and rural development).

Broadcasting for Development

Much open broadcasting, whether labelled educational or not, is directed toward national development goals. In countries as different as Brazil, Nigeria, and Tanzania, for example, it is seen as contributing to national unity. Its purposes have been defined more clearly in Tanzania than in most LDCs.

> The duty of the service is to help and sometimes even to bring about a direct ideological and attitudinal revolution among the millions of Tanzanians, many of whom have no other means to get to know about the goals and priorities of our Party and Government. This duty applies both to the national and to the commercial channel: The principal aim of our Commercial Service will be to establish a basis of bringing about a revolutionary attitude so that they appreciate and buy more of what are our own products so that the nation as a whole moves towards the central economic aim of self-reliance. (Elihu Katz and George Wedell, Broadcasting in the Third World)

To many LDCs, radio's appeal stems from the fact that development and modernization are associated with the spread of techniques of mass communication, even though a causal connection between the two is difficult to establish. Elihu Katz and George Wedell have suggested that broadcasting "has thus been one of a collection of transferred attitudes and institutions that in the countries of the West have been the effects of development, but that in the developing world have been regarded as among its causes." As a result, the hopes for broadcasting may have been higher in the LDCs than in the industrialized world.

These high hopes notwithstanding, the effects of broadcasting have been examined more critically in the last few years. While, in theory, a radio station can reflect the views and beliefs of a government bent on furthering development and fostering a sense of national identity, in fact there is a legitimate fear that "the media are capable of sowing the seeds of cultural homogeneity and thus, ultimately, of dependence on the West and its trinkets." Within Latin America, for example, mass media's goals have been described by Luis Beltran as being markedly at odds with national development. Summarizing the characteristics Beltran has identified, Richmond Postgate cites:

> (a) the stimulation of irrational buying behavior; (b) the promotion of values which, in general, are alien to the local cultures and sometimes noxious to them; and (c) the impairment of the audience's ability to appraise critically their society and culture, and thus, seek to transform them.

The danger that broadcasting--be it for entertainment, for news, or even for education--will be dominated by materials generated in rich western countries was recognized by the McBride Commission. It recommended that priority should be given by LDCs to extending their radio networks and to producing radio broadcasts locally. Imported programs do not, however, represent the only danger. Programs adapted from or modelled on those that succeed elsewhere may retain the style and values of the original even if the content is local and familiar. The many adaptations of the children's television series, Sesame Street, for example, have been criticized for indoctrinating children in LDCs with the values of western consumer societies.

While a full analysis of the role of general broadcasting in education and development is out of place here, it is important to set in context any discussion of educational broadcasts. Since most educational broadcasts last fewer hours and have smaller audiences than other broadcasts do, it is particularly important to keep in mind the (albeit scantily researched) effect of the many hours of other open broadcasting on learners and would-be learners.

Open Broadcasting

Open educational broadcasting is important, even if its audiences are relatively small. Broadcasters, educators, and agriculturalists all testify to its importance by devoting many hours to it, year after year. But, partly because it is hard to get feedback from thousands of isolated listeners and expensive to get it from hundreds of schools, little is known about the effectiveness of open broadcasts, either for schools or for adults.

It does nonetheless seem clear that, in rich and poor countries alike, primary schools are keener to use broadcasts than secondary schools are. In secondary schools, scheduling problems related to the need for teachers to specialize in a single subject limit the use of radio broadcasts.

Radio programs are probably of most value in teaching subjects about which the teachers are themselves uncertain: science, new curricula in mathematics, and languages that are new to both teacher and student. But major difficulties remain to be overcome if educational radio is to be more than half successful. Sets need to be provided, maintained, and supplied with batteries. Teachers need to know when programs are to be broadcast and what the content of each will be. Even for open-circuit broadcasting, some sort of timetable needs to be distributed to schools. At the same time, broadcasters need enough contact with schools to make sure that they pitch their broadcasts at a level that meets the needs of both students and tutors. Straightforward technical difficulties must also be taken into account. Schools in remote or mountainous areas may receive only weak radio signals, while in equatorial regions the propagation characteristics of radio signals cause problems. Listening conditions in an echoing tin-roofed classroom are likely to be poor. The sound quality from a radio with a small loudspeaker is low. All these difficulties reinforce each other.

For vocational training or for equivalency programs, open broadcasting has been used little, if at all. But, programs intended for school audiences are also heard by large eavesdropping audiences. (Even programs as specific as those on school mathematics in Nicaragua attracted an adult audience listening at home.)

Many open broadcasting services devote considerable airtime to broadcasts on agriculture, health education, community development, and other rural issues. Some evidence suggests that these programs reach and influence their intended audiences. For instance, studies in Malawi suggest that some 27 percent of farmers had learned something about agriculture from radio. In northern Nigeria, nearly half the farmers in one survey thought radio the most important source of agricultural information.

Overall, programs on farming and market prices seem to be popular, in many cases as popular as news and music programs. But, as with in-school broadcasting, agricultural radio broadcasting entails inherent difficulties. Often, signals from a medium- or short-wave transmitter will reach an area large enough to encompass a variety of climates, soils, and crops. Advice on agriculture that is right for one part of the area will be wrong for another. Where broadcasts are made in more than one language, the problem is compounded since linguistic and agricultural boundaries do not necessarily coincide.

With respect to many agricultural broadcasts, another set of difficulties arises when broadcasters adopt the wrong tone. Too often, farmers are told what they must do, when they must plant, and how they must harvest instead of being informed about new agricultural methods and the reasons for adopting them. Such didactic instruction makes production easy but listening difficult. In such cases, the listeners may not need instruction, which is likely to be either only too familiar or slightly wrong in the context of the microenvironment, so much as they need explanation and information. At any rate, it is well-nigh impossible to produce useful agricultural programs that will increase listeners' understanding of agriculture if such programs are aimed at farmers who work under quite different conditions and grow quite different crops from those the programs address. Finally, in any sector of education, there are severe limits to what a single medium can achieve.

So much for the disadvantages of open broadcasting. The advantages are twofold: it is cheap, entailing only the costs of producing and transmitting programs, and it reaches large audiences. The numbers reached by broadcasts are always much larger than the numbers who will enroll in a course or join a learning group. While the costs of broadcasts to schools are generally additional to normal operating costs, the costs per student may amount to no more than a small fraction of the amount spent on teachers or books; similarly, the cost for each adult listener, where no support serivces are provided, may be very low.

Open Broadcasts With Print

Much of what has been said about open broadcasts holds true of broadcasts supported with printed materials. But, even a limited amount of print can provide the teacher or the student at home with a guide to the best ways of using radio, a reminder of what has been said, and a substitute for what has been missed. While supporting materials will not reach all of a program's listeners, they will make the programs more useful and more effective for those who do get them. Of course, there is a price to pay. The costs of producing printed materials has to be borne, so the cost for each listener who receives them is higher than the cost for each listener who tunes in to an unsupported radio program.

Then too, there is an administrative price for printed materials. Since supporting print should relate closely to programs, print and radio need to be planned together. Because the lead times for printing pamphlets or books on the one hand, and producing radio programs on the other, are likely to be different, the decision to link print and radio makes the production of radio programs more difficult.

In schools, print-supported radio programming has been used to enrich and extend the curriculum. It has made it possible for schools to offer subjects that would otherwise not be available to students. And it enables them to present subjects in a different way. In Kenya, for example:

> In the later 1960s, Voice of Kenya began to use a radio series called "Beginning Science" to improve science teaching in the upper classes of primary schools. By 1971 "probably 80 percent of Kenya's upper primary children in registered listening schools [learned] their elementary science through this radio series." Radio seems to have been successful in getting schools to approach science in a new way. The broadcasts were supported by pamphlets, and there were regular visits to schools. (Michael Young and others, Distance Teaching for the Third World)

Other projects have used radio and print to carry a much heavier teaching load. In Mexico, a small experiment—Radio Primaria—used radio supported by print to extend the work of primary schools that could offer only the first few years of the curriculum. In Nicaragua, radio has been used in a much larger number of schools, to a much narrower purpose—teaching mathematics.

In a USAID-sponsored project the primary school mathematics syllabus was revised and radio was adopted as the teaching medium. Since the new syllabus was thought to be beyond the competence of the existing teachers, the intention was to use radio for direct classroom teaching. The radio teacher replaces the classroom teacher in asking children to do mathematical exercises, announcing (after a pause) the right answer, and so on. The children thus learn mathematics without reference to any textbooks.

The use of print with radio has not only made it more convenient for teachers to use radio, it has also contributed to a shift in radio's function. Whereas it started as teacher support and classroom enrichment, with print support radio has increasingly been used to teach children directly, taking over some of the classroom teacher's functions.

Radio with print has not been used on any significant scale for vocational training. But it has been used for some equivalency courses. In Brazil, radio programs help students prepare for the secondary-level equivalency examination, the madureza, and these programs are supported by printed study material on sale at bookstalls. Similarly, in wealthy countries where public service broadcasting exists, radio with print support has been used extensively for adult education. The BBC in Britain, for example, offers foreign language teaching by radio and sells supporting texts. (Sales vary from 12,000 to 200,000 for a term.) Print is crucial in such broadcast programs for teaching and reinforcing grammar and vocabulary and for encouraging practice beyond the limited minutes of a radio program. In general, print-supported broadcasting is widely used in the West for many other educational broadcasts for adults, even where its function is less crucial. However, little evidence about the effectiveness of most such broadcasting is available.

Radio used in conjunction with print is of little relevance to rural education in LDCs, though some agricultural extension services distribute leaflets that give the times and subjects of agricultural broadcasts. Where literacy levels are low and broadcasts are aimed at large audiences of farmers, the value of print is inevitably limited.

Broadcasts with Print and Feedback

If broadcasts supported by print are backed by a tutorial service, then the tutors can lessen the distant learner's isolation. Systematic feedback from the listener to the tutor can be used to help the listener learn more effectively and can also inform the broadcaster about audience reactions.

Commonly, this kind of tutorial support has been provided through the use of correspondence courses linked with radio. In particular, radio and correspondence have been used for the in-service training of teachers. In the late 1960s, Kenya started to use this combination to provide alternative training for unqualified teachers. More recently, Tanzania has adopted a similar technique to train the large number of teachers recruited to implement universal primary education. The National Service for Commercial Apprenticeship (SENAC) in Brazil not long ago conducted promising experiments in vocational training with radio and correspondence.

The combination of radio and correspondence has also been widely used for equivalency courses--those that lead to formal certificates of competence equivalent to those obtained in school. While most such courses are for adults, some have been geared to the primary level. In the Dominican Republic, for example, students of Radio Santa Maria listen at home to radio programs, work on correspondence lessons, and come together once a week with a monitor who collects their work and sends it on for marking. In this way, the adult students can work through a basic education curriculum and take an examination equivalent to that children take in primary schools.

Radio and correspondence have been more widely used in secondary and higher education. In many countries, primary education has expanded much farther than secondary, so that demand for alternatives to regular secondary schooling is widespread. In South Korea, for example, the Air Correspondence High School has followed an earlier Japanese example and is using radio and correspondence for secondary courses. In Malawi, a comparable program is offered: students come together in low-cost substitute schools, often with unqualified or underqualified teachers, and get most of their teaching from radio and print. At university level, a number of LDCs have established open universities, which use radio with other media in alternative education.

Even with arrangements for feedback, radio with print is of limited value for much rural education, since the audience is limited to literate individuals. In India, however, the popular Farm School on the Air has had some success in training farmers its format consists of weekly lessons read over the radio. Listeners write out answers to the questions broadcast during the program and mail them in for marking.

Broadcasts with Print for Groups

Most of the projects discussed here so far use radio as the junior educational partner to support and reinforce what print or individual study conveys, rather than the other way around. Radio's key role has often been to recruit, encourage, or stimulate students, rather than to carry the main burden of teaching them. For many adults, more support than radio or print alone can provide is needed. For them, some kind of out-of-school group organization is necessary. The techniques of group study, supported by radio, have been used for programs of vocational, equivalency, and rural education--three of which are here considered together.

The idea behind group study is simple. As Michael Young and others points out,

> ...in the last few decades the most important step taken has been to connect radio with organized but informal groups. The radio is used to arouse interest and to convey information; the information and the ideas are then discussed by group members; often the local extension officer serves as a group leader. The combination seems to be a powerful one. It allows the technical knowledge of the teachers or experts, usually from outside, to be combined with and adapted to the local knowledge and environment of the students or forum members. (Distance Teaching for the Third World)

The essence of this method is to use radio with print to carry the main burden of teaching where there are no ordinary schools, and not to provide orthodox in-school education. The Latin American radio schools, which started with Accion Cultural Popular (ACPO) in Colombia, comprise small groups of learners who use radio and print to work their way through a curriculum. While the curriculum is, in many cases, comparable to that offered in ordinary schools so that radio school members can get the equivalent of a basic or secondary education, the pattern of organization is totally different: small groups of students, mainly adults but sometimes adults and children working together, study outside formal schools. Moreover, the radio schools' curriculum is not limited to school subjects. Some schools focus, for example, on agriculture and so can be regarded as vocational. Others focus on health, family life, or religion: these must be classified as nonformal. Finally, the radio component itself is central in recruiting, encouraging, and teaching students.

Radio has also been used with study groups in two other types of application: radio farm forums and radio campaigns. Of the two, radio farm forums have the longer history. In 1940 the Canadian Broadcasting Corporation, together with the farmers' union and national adult education association, launched Farm Radio Forum. Farmers came together to listen to a radio program on a topic of importance to them—more often marketing than farming techniques—and made use of study guides distributed to the groups. Following their motto of READ/LISTEN/DISCUSS/ACT, the groups began by reading the study guide, then they listened to the program, and finally they discussed the program. Each program was intended to lead into group or community action, and reasonably often did so. The series ran for some twenty years, helping farmers overcome their isolation in the cold Canadian winter and leaving behind a record of many small and cooperative initiatives. The same model used in Canada was adapted in the 1950s in India and then in Ghana. Farm forum projects followed in more than a dozen African and Asian countries. All were organized in the same fashion, though some made much sparer use of printed materials.

The existence of a network of forums meant that it was relatively easy for broadcasters to keep in touch with the forum members and to obtain feedback from them for use in program production. For the learners, the idea of having a group leader, who alone needed to be able to read and write, meant that farm forums could educate nonliterate and literate people alike. But in spite of many reported successes, forums always appealed only to a minority of farm families, and these programs worked only if they received sustained support from their members over months or years. Gradually, many faded away.

Yet, the forum movement continues to exist in Ghana and India. In parts of francophone West Africa, radio clubs springing from the French tradition of animation still operate along similar lines. In Senegal, for instance, feedback from radio clubs has played an important role in informing and changing government policy. Reactions from forums have been used there to keep government in touch with peasant needs and interests.

The difficulty of maintaining support for forums over a long period was one of the factors that led Tanzania to take another approach to radio education—the radio campaign. Here, the intention is not to involve a small group of farmers over a long period, but instead to attract into radio learning groups large numbers of people for a short time. In the Tanzanian campaigns, which focussed on both political and health education, each meeting started with the reading of a study guide. Members then listened to the radio program, discussed its relevance, and agreed on action following it. Accordingly, the impact of the campaign Man is Health has, for example, been assessed in terms of the number of latrines built, stagnant pools cleared away, and so on, and not merely in terms of the number of people who joined study groups.

Since the Tanzanian campaigns have run for only short periods, the decline in support has been less of a problem than it has been with other types of forums. In addition, the campaigns were conceived and launched on so large as a scale that the strong backing of government and party agencies was required to train group leaders, distribute support materials, and deal with feedback from learning groups. This means that the costs of producing the radio programs represents a relatively small part of the total costs, whether measured in terms of managerial capacity or of money. (Table 1 summarizes the way in which broadcasts have been supported and used.)

Table 1: Educational Sector and Uses of Radio

Ways of using radio	Educational sector			
	Schools and colleges	Vocational education	Equivalency courses	Rural education
Open broadcasts	Widely used	Not used	Not used	Widely used
Open broadcasts with print	Widely used	Not used	Occasionally used	Not generally used
Broadcasts with print and feedback	Little used	Some Used	Some Used	Not generally used
Broadcasts with print for groups	Not relevant	Used	Used	Used
		(Its use here—through radio schools, farm forums, or campaigns—overlaps these three subsectors.)		

The Function of Broadcasts

While the functions of radio, especially for open broadcasting, have seldom been clearly defined, at least five can be distinguished. One is to motivate, encourage, and support students. Radio has been used effectively to encourage people to enroll and participate in an educational program and, once they have started, to keep working at it. Studies in Europe have suggested that broadcasting can significantly affect the proportion of correspondence students who keep working on their courses.

The second function is to teach students part of the curriculum. Radio may be used to reinforce ideas and information that are also carried in print or to present those parts of a subject that lend themselves to oral presentation. Where groups are learning without a teacher, the teaching function of radio becomes particularly important since we cannot be sure that all paticipants in forums, schools, or campaigns can read and write, or that printed materials will always reach them. The third function of radio is to teach students techniques of study, as opposed to subject content. Radio can be used successfully, for example, to teach students how to solve problems in mathematics or how to plan an essay. The fourth function is to inform students about their course and about activities associated with it.

Finally, radio can be used to respond to student problems. If recordings of students can be made or an analysis carried out of difficulties they have encountered in their written work, then this feedback can be used to improve radio programs. This function, of course, overlaps with others: a program on student difficulties will, for example, also introduce some new material and encourage students to continue their study.

Formats

As Bertolt Brecht pointed out, broadcasting developed as a way for central governments and centralized commercial institutions to communicate to large numbers of people, rather than as a means of communication among members of the public. Much broadcasting, whether for education or for development, bears this observation out. Whether in the form of talks, speeches, lectures, instructions, or advice, most educational broadcasting consists of a lecture. Unfortunately, many teachers, community developers, agriculturalists, and rulers have assumed that radio's main value is to give them a loudspeaker that can be heard all over the country. There is no reason to assume that this format is especially effective, but such programming is inexpensive to produce.

Many educational programs, for schoolchildren or for adults, do use a more interesting format--discussions or drama. Interviews, discussions, or dramatizations are likely to be more appealing to listeners, and to be more effective.

A variant of the first format is the advertising spot. Following the example of commercial radio advertisers, numerous countries have experimented with repeated spot broadcasts. Such spots, which last for between 30 seconds and two minutes, are repeated so frequently that they are remembered as clearly as advertising jingles. In general, the most successful of these spots follow four rules. James Theroux spells them out in Techniques for Improving Educational Radio Programs:

1. The first sentence should contain no new or important information (listeners often fail to hear the first sentence of an announcement) but should attract attention (by means of an unusual or appealing voice, an interesting question, or an expression of emotion).

2. Of the 60 seconds, no more than 40 seconds should be talk. The rest should be music, silence, or sound effects.

3. The message or content of the spot should be 90 percent familiar information and 10 percent new (as in dialogue or drama).

4. The basic structure of a nondramatized message is four-part: introductory sentence, background, bridge sentence, and new information.

Advertisers stand convinced of the effectiveness of the spot as a way of increasing sales, but its value for education is harder to substantiate. First, many educators argue that education consists of far more than drumming repeated messages into listeners' heads. Second, the results of one experiment carried out by an advertising agency in the Philippines suggest that even with intensive advertising over a year, only a minority of listeners are persuaded to change their children's diet as recommended and that the costs of reaching each family are relatively high. This finding is consistent with theories of communication that suggest that human interaction, as well as the receipt of "messages," is important in getting people to adopt innovations.

Perhaps we all chafe at restrictions on our means of communication. At any rate, we can see all the other radio formats besides dramatizations, lectures, and advertising spots as attempts to increase the radio audience's involvement by transcending the limits of a one-way medium. Radio producers have tried to do so in three ways — directly (by inviting listeners to respond aloud during each program), vicariously (by getting listeners to identify with the characters of a broadcast), and representatively (by enabling some proportion of the audience to take part in the program).

Of these three methods for involving the audience, direct involvement is the rarest. Most broadcasters have felt that time is at a premium and have been reluctant to broadcast silence or background music while listeners solve a problem or shout out their answers. Yet, this technique has worked. In Nicaragua, children learning mathematics at school responded out loud to radio programs. In Honduras, students of the radio school Accion Cultural Popular Hondurena (ACPH) were given themes to discuss among themselves or with their group leader, while the radio played background music. In other radio schools, learners write answers to exercises in their workbooks during pauses in the radio lessons.

Vicarious involvement, the second approach, is much more common. Many programs have been cast in dialogue form. Some stations feature two speakers, a man presentor and a woman presentor, who alternate in the role of student and teacher. Then too, programs can be dramatized to personalize the issues and to enable listeners to identify with their radio protagonists. From simple drama has come the idea of the educational soap opera, in which the views of educators, agriculturalists, or community development workers are embedded in a serial. The Archers in Britain has been running for thirty years, with an episode every weekday. It offers information mainly, but not solely, on agriculture, and it still attracts and influences audiences. (Doctors were astonished recently by an exceptional demand for tetanus immunizations after one character in The Archers developed tetanus.) The strength of the format is clear. The problem often lies in finding enough scriptwriters and enough ideas to keep going day after day or week after week.

Various techniques have been used to involve representatives of the audience in programs. One is using recordings of students as the basis for programs. In Ecuador, for example:

> Members of the radio schools of "Radio Mensaje" regularly make their own programs, which expose the issues that matter to listeners and reflect their local culture. These programs were experimental at first, but quickly became so popular that more air time was given to them. Programs are made from material recorded in villages and edited at the radio station. Up to 40 village groups are loaned tape recorders and send in their own choice of recordings. The programs appeal to an audience very much larger than the few village groups participating. (Janet Jenkins, Materials for Learning)

Request programs of various kinds have also been used with some success. In Botswana, for example, a radio series called Re botseng (Ask us) was launched as a successor to the 1976 radio learning campaign, and soon started receiving a steady flow of inquiries about the work of all government departments. In Costa Rica, a regular program on sex, Dialogo, has generated and made use of a steady flow of correspondence from listeners: very popular, it appears to attract the less rather than the more educated, and it may even have contributed to the decline in the birthrate in the 1960s and 1970s. Music request programs have also been run by educators in an attempt to associate their subject matter with the popularity of the music they play. The extension aids service in Malawi uses this approach, while other agricultural music programs intersperse music with advice on agriculture. In the Solomon Islands, Teachers' Tea Time has received an average of seven letters from each school in its area: as well as overcoming some of the isolation of scattered teachers, this also gives teachers a chance to comment to the schools' broadcasting service on their work.

Finally, representative listeners can be involved in an educational quiz show, which as James Theroux points out,

> can be interesting and informative as its questions and answers convey information on a certain theme. The attention of the listeners is retained both by natural interest in a competition and by auditory stimulation through the use of buzzers and bells for right and wrong answers, recorded applause to create a feeling of immediacy, and so on ...
>
> The quiz show can transmit concrete facts, especially on subjects with which the audience already has some familiarity.
> (James Theroux, Techniques for Improving Educational Radio Programs)

Little firm evidence suggests that one format has clear advantages over another. But what evidence there is does suggest that language is all-important —regardless of which format or medium is used. Beyond that, it has been demonstrated that the effectiveness of the straight talk or lecture has clear limits, especially for people who have had relatively little formal education.

Obviously, it is also important to make a program interesting: we learn more effectively if we are not bored. But of the comparative effectiveness of different ways to make a program interesting, or to maintain students' involvement, little is known.

Costs

Analyzing the costs of radio for education, educators should distinguish between four types of expenses. They are the cost of producing programs, the cost of transmitting them, the cost to the listener of receiving them, and the cost of organizing support for to them (through, for example, the production of supporting materials or the organization of group study).

Table 2 : Estimated Costs Per Hour of Open Broadcasts

Country	Date of Information	Cost per hour Production: Constant 1978 US $	Transmission: Constant 1978 US $	Production and transmission: Constant 1978 US
Tanzania a/	1979	408	109	517
Nepal b/	1975	99	64	163
Mexico b/	1972	179	22	201
YugoslaviA c/	1978	n/a	n/a	96
Shetland Isle (Britain) c/	1978	n/a	n/a	427
Malawi d/	1980	n/a	n/a	830

Notes

a) D. Mbunda and A. B. Edington (1979), Educational Media in Tanzania (n.p., British Council, London), using a 5% discount rate and taking 8.074/- = $1.00.

b) Unesco (1977) The Economics of the New Educational Media (Unesco, Paris), using a 7.5% discount rate.

c) Richmond Postage, and Others (1979), Low Cost Communication Systems for Educational and Development Purposes in Third World Countries (ITDG, London/Division of Structures, Content, Methods and Techniques of Education, Unesco, Paris).

d) Interview at Malawi Broadcasting Corporation, May 1980, taking K0.81 = $1.00.

Estimates of the cost of producing and transmitting programs should be fairly easy to make. Yet, the figures available vary widely, in part because the same goods and services cost differing amounts in different parts of the world, and in part because the approaches taken by the economists who make such projections differ in sophistication. The same procedure has not always been used, for example, to deal with rent, amortization, and depreciation. (See Table 2.)

Estimates for reception costs are even more difficult to calculate, since these vary not only with the economic condition of the country in question, but also with the number of listeners who use each radio set and with the number of hours a set is used. Estimates in Tanzania suggest that the reception cost per pupil per hour in primary schools varies between US$0.00171 and US$0.00204. These figures seem to compare favorably with the costs of teachers' time and with the costs of print. Thus, the total annual cost of primary school broadcasts was estimated at US$0.79 per child compared with a cost for textbooks of US$5.70. For Malawi, the cost per listening farmer for an hour's agricultural broadcasting is US$0.0037.

The costs of using radio with other media have been calculated for a number of projects, notably those using a correspondence link to provide courses leading to examinations. In these cases, the costs of using radio can be compared with the costs of regular face-to-face education, but such a comparison is not possible for much educational broadcasting since the aim of the programs is seldom the same as the aim of any face-to-face teaching alternative. (See Table 3.)

Table 3 : Costs of Multi-Media Courses Using Radio

Project and country	Date	Cost per enrollment in constant US$ - 1978	Education level	No. of enrollments at time of report	Comparison with cost of alternative
Malawi Correspondence College a/	1978	160	Secondary	2,880	Cost per enrollment lower than school; cost per graduate higher than day school but lower than boarding school
South Korea: Air Correspondence High School a/	1977	64	Secondary	20,000	Cost per enrollment and per graduate lower
Kenya: In-service teacher training a/	1977	322	Secondary	790 c/	Cost higher than alternative
Dominican Republic: Radio Santa Maria d/	1975	5	Primary/ basic for adults	20,000	Cost per enrollment and per graduate lower than alternative
Tanzania: wakati wa furaha radio campaign f/	1971	0.85	Adult	20,000	No direct comparison possible
Botswana: Tribal Grazing Land radio campaign g/	1976	10	Adult	20,000	No direct comparison possible

Notes

a/ Hilary Perraton, ed. (1979). Alternative Routes to Formal Education: Distance Teaching for School Equivalency (mimeo, World Bank, Washington, D.C.)

b/ This is a cost per student per year.

c/ This figure represents subject equivalency enrollments, not individuals: one student may study more than one subject at a time.

d/ R.A. White, "The Use of Radio in Primary and Secondary Formal Education: the Radio Santa Maria model in the Dominican Republic," in Dean Jamison and others, ed. (1977), Radio for Education and Development: Case Studies (World Bank, Washington, D.C.).

e/ White estimates that the real cost, as opposed to actual expenditures, if RSM worked as a government agency, would be $24 per student per year, as compared with a cost in government schools of $39.

f/ Budd L. Hall and Tony Dodds (1974), Voices for Development: the Tanzanian National Radio Study Campaigns (International Extension College, Cambridge).

g/ Ministry of Local Government and Lands (1977), Lefatshe 12 rona: Our Land (Ministry of Local Government and Lands, Gaborone).

As the figures set forth in Table 3 suggest, the cost of education through radio with some kind of print or group support may be lower than the cost of orthodox education, but it will not always be. Using radio and print or group discussion is much more expensive than open broadcasting. But the figures must be treated with caution for two reasons. First, all the costs of broadcasts in these calculations are attributed to the enrolled students; yet, a significant general audience exists for and benefits from even the most narrowly conceived educational broadcast. Second, while the total costs of using radio with print and group support are clearly greater than the costs of using radio alone, these higher costs need to be viewed against the alternative ways of meeting a similar objective. Alternatives to the work of ACPO in educating rural peasants in Colombia, for example, do not lie in putting out radio programs without any support. If a comparison is needed, it must be made with the costs of expanding basic education to all. (One such attempt has been made: the costs of the Tanzanian campaign Man is Health have been weighed alongside those of producing the same results using government labor for construction.) While such comparisons cannot be precise, making them should help educators and other decision-makers to avoid interpreting the figures in Table 3 in too simple a fashion.

Conclusions

Radio has been used extensively to stimulate and further both education and development. But, for the most part, it has been used haphazardly, with little sustained experimentation or research to guide it. Over the last twenty years, television has aroused far more interest than radio, although its audiences have been far smaller. Meanwhile, different ways of using or supporting educational radio and different formats for broadcasting have developed in different parts of the world in comparative isolation from each other—on open radio here, a farm forum there, or a radio school somewhere else.

Two consequences follow from the long-time neglect of radio's full potential. First, the scope for extended trials and experiments with the whole range of educational radio broadcasting techniques remains immense. Second, a number of ways of using radio are underdeveloped. Supported by correspondence, radio has been widely used for few professions other than teacher education. Clearly, much of its potential remains untapped.

Overall, plenty is still to be learned about radio. We need to know more about program production and, in particular, about choosing formats for particular educational purposes. But even more important, we need to know much more about the way radio is received and used.

Also appropriate here are some positive, if obvious, statements about the power of radio. First, the development of the transistor means that radio now offers an easy way of reaching large proportions of the populations in most countries of the world, no matter how poor. Over the last two decades, the proportion of the population reached by radio has in many countries probably risen from around 10 to 20 percent to somewhere near or above 50 percent. Second, it is easier to distribute information via radio than through any other mass medium, including newspapers. Third, radio can reach the nonliterate as well as the literate. Fourth, radio is far cheaper than television, and it reaches larger audiences. Moreover, as with any mass medium, the costs of making and distributing programs do not rise with increases in the number of listeners. Educational broadcasting can, therefore, achieve economies of scale impossible for orthodox education.

Radio's ability to reach large audiences presents broadcasters with two additional questions related to scale. First, to what extent can any program be both specific enough to meet the needs of a particular audience and general enough to justify its place in a schedule of broadcasts reaching hundreds of thousands or millions? As summarized at an International Extension College workshop in 1977, the problem is "Somehow ... to reconcile the need to decentralize with the need to achieve economies of scale. Problems here are increased by linguistic differences, as well as by cultural and agricultural differences..." Second, how far should radio's energy be concentrated on reaching the largest numbers, through open broadcasting, and how far on teaching with the greatest effectiveness? There is no simple answer here, but one approach is to create links between programs and routes for the most committed members of a radio audience to become members of learning groups. The same program can, after all, often meet the needs of a larger, general audience and of a smaller, more committed one. And links or routes of this kind can help solve our first problem, that of matching a broadcast program with the specific needs of one audience.

How we develop these links remains an open question: we are still a long way from having a formula to use to choose between alternative ways of doing so. Nevertheless, the educational future of radio depends on the subtlety and strength of the links that can be developed between it and various forms of face-to-face learning.

2. FUNCTIONAL LITERACY AND THE USE OF RADIO

2.1. Functional Literacy and Non-Formal Education as Development Strategies

from: H.S. Bhola, Curriculum Development for Functional Literacy
and Non-Formal Education
Programmes. DSE Bonn 1979,
pp. 36-53

CHAPTER II

FUNCTIONAL LITERACY AND NONFORMAL EDUCATION AS DEVELOPMENT STRATEGIES

This is a book on the subject of curriculum development for functional literacy and nonformal education. In Chapter I, we have put the general process of curriculum development in out-of-school settings in the Developmental context. However, before going on to the subject of curriculum development models, strategies of instructional development and methods of materials design, we should talk of the concepts of functional literacy and nonformal education themselves.

What is functional literacy?

The phrase "functional literacy" was first used to denote a level of literacy which would enable the new literate to function effectively in his or her own society. The World Conference of Education Ministers held in Tehran in 1965; and the Experimental World Functional Literacy Programme that was later promulgated by UNESCO, gave functional literacy new meanings. It was to be work-oriented literacy, yet comprehensive enough to teach more than economic skills; it was to be selective and intensive, yet its benefits were to filter to the whole community. A UNESCO document, published in the very early stages of the program defined functional literacy thus:

> Briefly stated, the essential elements of the new approach to literacy are the following: (a) literacy programs should be incorporated into and correlated with economic and social development plans; (b) the eradication of illiteracy should start within the categories of population which are highly motivated and which need literacy for their own and country's benefit; (c) literacy programs should preferably be linked with economic priorities and carried out in areas undergoing rapid economic expansion; (d) literacy programs must impart not only reading and writing, but also professional and technical knowledge, thereby leading to a fuller participation of adults in economic and civic life; (e) literacy must be an integral part of the over-all education plan and educational system of each country; (f) the financial needs of functional literacy should be met out of various resources, public and private, as well as provided for in economic investments; (g) the literacy programs of this new kind should aid in achieving main economic objectives, i.e., the increase in labor productivity, food production, industrialization, social and professional mobility, creation of new manpower, diversification of the economy.[1]

This definition of functional literacy makes some clear and definite program and instructional demands: demands about objectives and about strategies. Literacy work is proposed to be undertaken within a Developmental context (see (a) above). It is a selective approach (see (b) above). It is supposed to be directly linked with economic activities (see (c), (d) and (g) above). While there must be an economic focus, the instructional objectives should be comprehensive to include teaching of skills that help in a fuller participation in civic life (see (d) above). Finally, it should be part of an over-all educational plan so that the new literate becomes an active member of the new learning society (see (e) above).

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[1] An Asian Model of Educational Development: (Perspectives for 1965-80); UNESCO, Paris, 1966, Page 97.

Functional literacy and integration

The teaching of literacy, tied to the teaching of an economic skill, has been central to the functional literacy approach promoted by UNESCO. The emphasis on the teaching of an economic skill has led to this approach being characterized also as work-oriented literacy. The emphasis on integration has been equally heavy. It has been suggested, sometimes, that to be truly effective in the teaching of functional literacy, the integration of literacy and the economic skill should be so organic that the learner, in the act of learning, should not be aware of whether he or she is learning literacy or an economic skill. This aspiration has some important implications for the organization of instruction and for the kinds of instructional materials that will be designed for a functional literacy program, including, of course, the designing of the first primers.

Let us begin with a discussion of the forms and meanings of integration, a somewhat difficult concept, which has created confusion not only in minds of literacy workers but has also confounded their programs and projects in their practical aspects.

Meaning of integration. In its literal meanings, integration simply is the bringing and fitting together of parts into a whole; or to secure maximum unity in the performance of functions.

In the area of functional literacy and Development, three different situations have been characterized by workers as integration, when it is, perhaps, not integration:

(a) Integration confused with addition. A course director of co-operative education during the course of his training invites lecturers from the agricultural, health and water development departments, and calls this integration.

(b) Integration confused with parallel streams of instructions. Two streams of instruction, one of literacy teaching and another of technical training run parallel and enroll the same group of people. Once in a while there are cross-references made to the work in the other stream of instruction.

(c) Integration is confused with team teaching. A group of specialists comes to lecture to the same group of learners in the same setting and in close proximity of time.

Integration, in its acceptable meanings, can be considered to take place in the following settings:

(i) Integrated development planning. Developmental planners, at various levels, get together and engage in a planning process which considers the total needs of the communities; and then develop plans on various Development sectors in such a way that planning in one sector reinforces planning in the other, and each builds on the work and successes of the other.

(ii) Integrated delivery of services at the frontline. To ensure that the recipient of services in the community is not segmented, the delivery of services at that point is integrated into one person. In India, it was the VLW (Village Level Worker). In other countries, this role has sometimes been played by the community development assistant.

(iii) Integrated curriculum and curriculum materials. The curriculum is seen not in terms of subjects and specializations but as one organic whole. Learners are not attending health classes and agricultural periods and literacy classes. They are learning. In a functional literacy class, for instance, the materials should be such that learners are not aware at one particular time as to what they might be studying.

Functional literacy: bread, but not by bread alone

Another point equally central to the concept of functional literacy is its comprehensive nature. It is comprehensive in the sense that it is really a program of full Development. Naturally, it looks at the total man even though it builds its program on the bedrock of economic motivations. It does include nutrition education, health and family life education, cooperative education, civic and political education.

Both of these central aspects of the concept of functional literacy—integration and comprehensiveness—are presented in the petalgraph included on the next page. As can be seen, some major economic activity is at the center of the functional literacy program. This could be cotton growing in one region of a country, maize growing in another and cattle-raising in another. It should not mean that in one functional literacy project there is room for just one economic activity. There should be one major economic activity but the project could relate to other secondary or supplementary economic activities at the same time. Again, note the relationships between the 3R's and the economic activity at the core of the petalgraph. Learning of reading, writing and arithmetic should take place, according to the concept of functional literacy, as an organic part of the major economic activity. The teams used in the primer, for instance, will have to be based on the major economic activity.

But there is more in a functional literacy project than the 3R's and the teaching of skills in a major economic activity. The program is supposed to be whole and comprehensive. It is supposed to include nutrition and childcare, better housing, health and hygiene, kitchen gardening, cooperative education, cattle-farming, citizenship and political education. To teach all these various elements, we will not have to write primers on each of these areas.

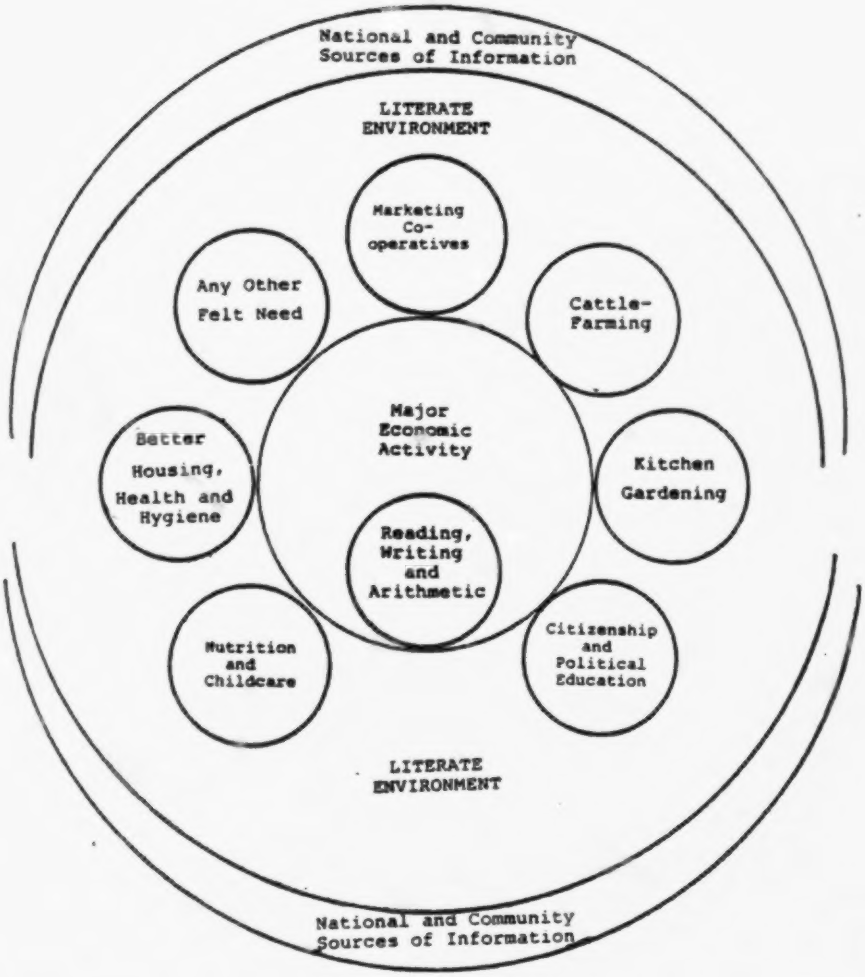
National and Community Sources of Information
LITERATE ENVIRONMENT
Marketing Co-operatives
Any Other Felt Need
Cattle-Farming
Major Economic Activity
Better Housing, Health and Hygiene
Kitchen Gardening
Reading, Writing and Arithmetic
Nutrition and Childcare
Citizenship and Political Education
LITERATE ENVIRONMENT
National and Community Sources of Information

Figure 2.1 A graphic presentation of the objective and strategy calculus of functional literacy.

There will be only one primer (or one primer series) that is built around the major economic theme. Other material will have to be taught by using non-print media while the learners are still illiterate or semi-literate; and printed leaflets and books as well when they have become literate.

UNESCO's second thoughts on functional literacy. After a decade of orthodoxy about the central role of economic motivations, UNESCO seems to have veered to the position that an economic activity, perhaps, need not always be at the core of a functional literacy program. They are now talking of cultural approaches to be equally significant. The cultural approach today has become the approach of cultural transformation. Thus everyone today is talking of literacy for conscientization. The Declaration of Persepolis on Literacy, easily the most important statement of the present decade on the purposes and strategies for literacy in the developing world:

> Considered literacy to be not just the process of learning the skills of reading, writing and arithmetic, but a contribution to the liberation of man and to his full development. Thus conceived, literacy creates the conditions for the acquisition of a critical consciousness of the contradictions of society in which man lives and of its aims; it also stimulates initiative and his participation in the creation of projects capable of acting upon the world, of transforming it, and of defining the aims of an authentic human development. It should open the way to a mastery of techniques and human relations. Literacy is not an end in itself. It is a fundamental human right.

The Declaration of Persepolis called literacy an essential instrument for all social change, though not the only means of liberation of peoples. It went on to list what the most favorable structures would be for the accomplishment of literacy programs:

- Those that, from the political point of view, tend to bring about the effective participation of every citizen in decision-making at all levels of social life: in economics, politics and culture.

- Those that, from the economic point of view, aim at an endogenous and harmonious development of society, and not at blind and dependent growth.

- Those that, from the social point of view, do not result in making education a class privilege and a means of reproducing established hierarchies and orders.

- Those that, from the professional point of view, provide communities with genuine control over the technologies they wish to use.

- Those that, from the institutional point of view, favor a concerted approach and permanent co-operation among the authorities responsible for basic services (agriculture, welfare, health, family planning, etc.).

One should note the definite shift away from a preoccupation with work-orientation and economic skills, though the economic needs of the community to whom literacy is offered are not neglected. Literacy becomes a political act;

participation becomes the essential condition. Thus to conduct a program of functional literacy, one would not have to focus on the economic skills; conscientization could move into the inner circle of the petalgraph; and the 3R's could be taught because of and through political themes of liberation from the oppressive realities surrounding the illiterate.

Functional literacy and social change

The concept of functional literacy makes important assumptions and provisions for the transfer of education and innovation from project clients to the community in general. The group of learners covered in the project is supposed to influence others in the community who have not been directly involved in literacy programs. Those covered in the project are supposed to generate processes—economic, social and cultural—that would lead to the collective good. Again, "graduates" of the functional literacy program are supposed to become independent learners in a learning society. These relationships are shown graphically in Figure 2.2 on the next page.

Three different streams of instruction are shown: the 3R's stream, the skills-learning stream and the general educational stream, using electronic and folk media. All the streams of instruction serve both the primary clients of the functional literacy program and the secondary groups in the community who, though not formally enrolled in literacy

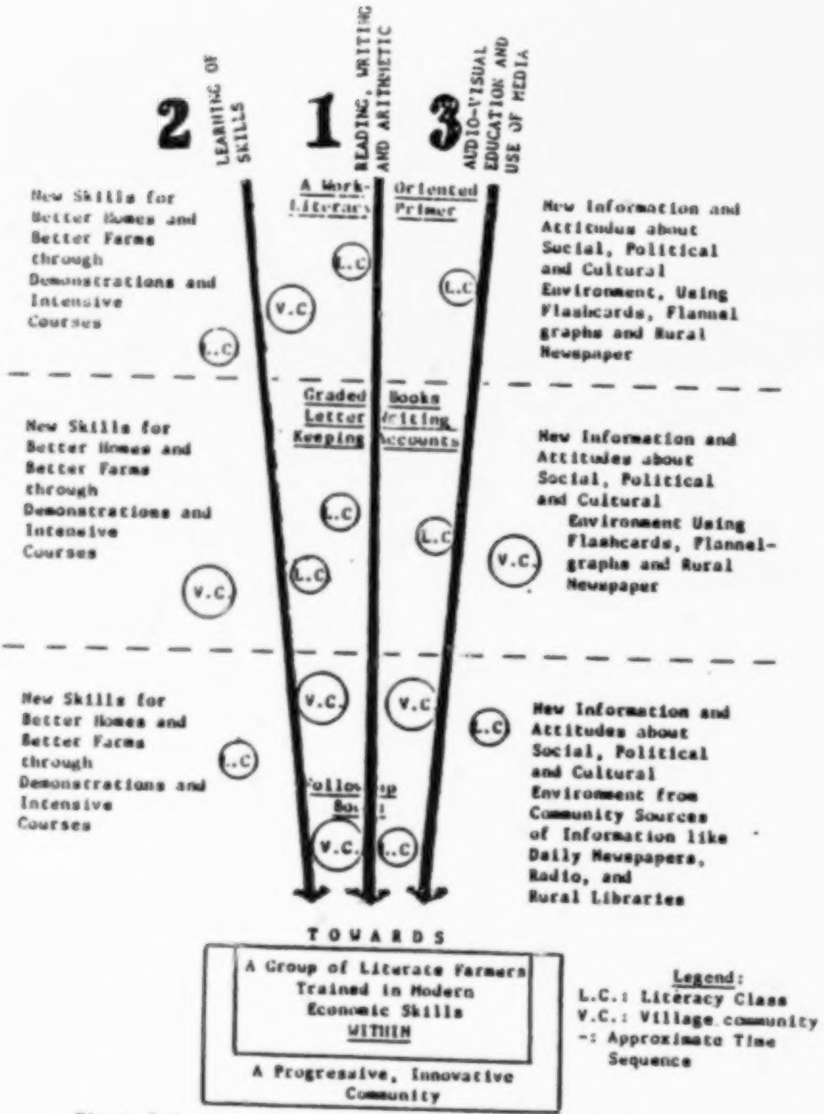
2
LEARNING OF SKILLS
1
READING, WRITING AND ARITHMETIC
3
AUDIO-VISUAL EDUCATION AND USE OF MEDIA
A Work-Oriented Literacy Primer
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
New Information and Attitudes about Social, Political and Cultural Environment, Using Flashcards, Flannel graphs and Rural Newspaper
L.C
V.C
Graded Books
Letter Writing
Keeping Accounts
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
New Information and Attitudes about Social, Political and Cultural Environment Using Flashcards, Flannelgraphs and Rural Newspaper
V.C.
New Skills for Better Homes and Better Farms through Demonstrations and Intensive Courses
Follow-up Books
New Information and Attitudes about Social, Political and Cultural Environment from Community Sources of Information like Daily Newspapers, Radio, and Rural Libraries
TOWARDS
A Group of Literate Farmers Trained in Modern Economic Skills WITHIN
A Progressive, Innovative Community
Legend:
L.C.: Literacy Class
V.C.: Village community
–: Approximate Time Sequence

Figure 2.2 A presentation of three converging streams of instruction covering both participants in literacy classes as well as the general village community.

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classes, are still participants in the program: they attend some skill demonstrations; they listen to the radio programs and maybe attend radio forum groups; and they read the special village newspaper and read the follow-up books prepared by the project and published for new literates.

The preceding discussion of the theory and history of the concept of functional literacy should have clarified for us as to what is a functional literacy project and what might be something else. It should have given us some ideas in regard to choices of objectives and of instructional strategies in designing work-oriented literacy programs or for undertaking programs of literacy for conscientization.

What is nonformal education?

Professor Russell Kleis of the Michigan State University in a paper written for the Program of Studies in Non-Formal Education of the Michigan State University proposed this definition of nonformal education:

> Non-formal education is any intentional and systematic enterprise (usually outside of traditional schooling) in which content, media, time units, admission criteria, staff, facilities and other system components are selected and/or adapted for particular students, populations or situations in order to maximize attainment of the learning mission and minimize maintenance constraints of the system.

He then goes on to provide 13 different characteristics of nonformal education (NFE) as follows:

1. NFE is not likely to be identified as "education,"
2. NFE is usually concerned with immediate and practical missions,
3. It usually occurs outside of schools (at learning sites),
4. Proof of knowledge is more likely to be by performand than by certificates,
5. It usually does not involve highly organized content, staff or structure,
6. It usually involves voluntary participation,
7. It usually is a part-time activity of participants,
8. Instruction is seldom graded and sequential,
9. It is usually less costly than formal education,
10. It usually does not involve customary admission criteria,
11. Selection of mentors is likely to be based more upon demonstrated ability than on credentials; and voluntary leaders are frequently involved,
12. It is not restricted to any particular organizational, curricular or personnel classification; and it has great promise for renewing and expanding any of them,
13. It has potential for multiplier effects, economy and efficiency because of its openness to utilize appropriate personnel, media and other elements which may be available in a given situation without

> concern for externally imposed, often irrelevant and usually expensive criteria and restraints.

The preceding is a researcher's definition and analysis of the concept of nonformal education. We may also look at a practitioner's definition. The 28th All India Adult Education Conference, held in Jabalpur in October 1975, defined nonformal education to comprise "any organised educational or training activity for school dropouts, for illiterate rural and urban adults, for youth, for women or for industrial workers aimed at improving their employment or income earning potential, or giving them general education which in some cases, as desired, may help them re-enter the formal education streams." Non-formal education programs, according to the same report, have to be "learner-centered, need-based, open-ended and flexible in training and methods and composed of an infinite variety of curricula and reading materials."

Before undertaking an analysis of nonformal education in terms of objectives and strategies involved in its planning and implementation, we should tackle another practical issue and ask the question: How does nonformal education differ from:

1. life-long education,
2. community development,
3. rural development, and urban development,
4. adult education,

5. agricultural extension,
6. health extension,
7. family planning and family education,
8. literacy, especially functional literacy,
9. communication, and
10. conscientization?

Some, not without good reason, would ask the same question about youth programs and military service.

One could reproduce here the typical definitions for each of the above program areas and show how the various definitions do overlap with each other. In Figure 2.3 on the next page, we have attempted a geometrization of mutual relationships between these program areas. We look at life-long education, adult education and nonformal education as names for activities that are almost congruent. The programs generally labelled as functional literacy, communication and conscientization form part of most nonformal education programs. We look at health extension, family planning, youth programs, agricultural education and military service as activities that do have an educational component but which are not all educational. They additionally involve provision of services and material and technological inputs. However, the educational component of these programs can be seen as nonformal education. Together these programs could be viewed as community development programs or urban and rural development programs

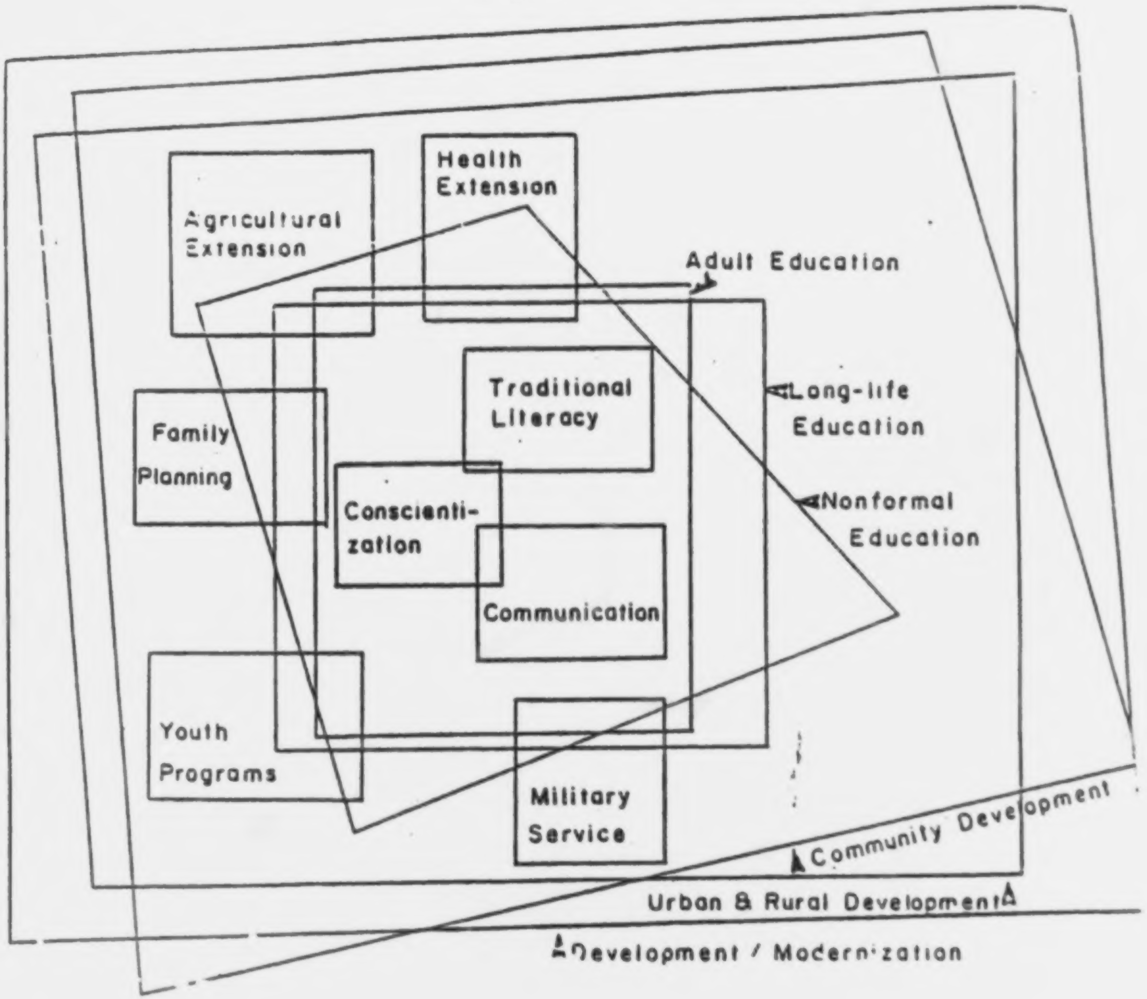
Health Extension
Agricultural Extension
Adult Education
Traditional Literacy
Long-life Education
Family Planning
Conscientization
Nonformal Education
Communication
Youth Programs
Military Service
Community Development
Urban & Rural Development
Development / Modernization

Figure 2.3 A geometrization of the relationships between nonformal education and other out-of-school educational and communicational programs.

which together add up to the total effort for development and modernization.

We only need to make the point here that nonformal education is thus a broad category which would cover adult education, women education, youth education, consumer education, and, for that matter, functional literacy—all these being special cases of nonformal education.

Objective-strategy analysis of nonformal education. A review of the 13 characteristics of nonformal education listed by Professor Russell Kleis in the preceding should indicate to us that nonformal education implies a pretty distinct objective-strategy combination. The character of this combination comes in sharp relief when placed by the objective-strategy mix in formal schooling.

The objectives of nonformal education are pragmatic, practical and immediate. Nonformal education relates to the lives of people as it is being lived today, dealing with problems they are already in the midst of, inventing solutions they can do something with. By temper, nonformal education is often radical, humanist and egalitarian. At its best, its methods are those of an activist; it is open-ended, authentic, and participative.

Summary

The definition of the functional literacy concept, as promoted by UNESCO through its Experimental World Functional

Literacy Program is presented. Functional literacy is then analyzed as a special objective and strategy calculus with its direct link with Development; its emphasis on economic motivations; and its integrated instructional strategies. A definition of nonformal education is also included; and the objective-strategy mix in nonformal education is clarified as well.

Things to do or think about

1. Would you characterize your program/project as a program/project of functional litearcy as defined by UNESCO?

2. Look at the petalgraph of functional literacy included on page 42. Does your literacy program/project fit this picture? Can you make a drawing that will describe your program/project more appropriately?

3. Is your program/project currently reaching only those enrolled in the program/project or is it reaching others in the community as well? If you are reaching other groups in the community, not formally enrolled, how are you doing it?

4. How realistic would it be for you today in your country to use the language of the Declaration of Persepolis in designing your literacy program/project? Could you design a program that seeks to work on the bahalf of the oppressed? Or do you already count yourself as one of those who are working on behalf of the oppressed?

2.2. Why Radio ?

from: Richard Burke,
The Use of Radio in Adult Literacy Education. Hulton Educational Publications in Co-operation with the International Institute for Adult Literacy Methods, Tehran 1976, pp. 33-38

CHAPTER ONE

Why radio?

In the last two decades, hundreds of articles have been written about television as the all-purpose, pervasive means of mass communication. Quite often these articles are illustrated with photographs showing television-receiving antennas attached to the rooftops of every imaginable type of human dwelling. Usually, these articles try to demonstrate that television has penetrated to every remote corner of the earth bringing with it entertainment, temporary release from daily cares and worries, educational and informational messages, and, in many countries, an endless stream of commercial messages praising an endless line of consumer products. It is often suggested, too, that television has changed the way in which people see their world. By the way in which television actors dress, speak and relate to one another they have provided many different models of behaviour for their audiences.

In our generally enthusiastic response to television, it often seems that radio broadcasting has, in many instances, been relegated to a position of secondary importance. This is unfortunate because radio broadcasting has much to recommend it and it is clearly not a poor relation of the newer and often more glamorous television. Let us look carefully at radio broadcasting as a possible source of support to a new or well-established programme of literacy training.

Reaching more learners

While it may be true that you can find television antennas on rooftops in most countries of the world, it is a feature of modern life that is essentially urban. For the average rural dweller, living three or four hundred kilometres from the nearest urban concentration, television is still an unrealized element in his life.

In Colombia, for example, three separate ranges of the Andes mountains run from north to south in the heavily populated western half of the country. Obviously, transportation and communication are extremely difficult under such adverse geographic conditions. Thousands of rural people live far from any source of progress. They are isolated not only physically, but culturally, which can be far more damaging to the person's state of well-being. It is not at all unusual for rural people of Colombia to spend half a day or more in travelling from their home to a main road in order to take part in a market day. Other countries, in Africa, Asia and the Middle East, also have problems of isolated populations due to mountainous country, distance from urban centres and lack of adequate roadways for communication. For these people, the truly significant means of information, education and entertainment is radio broadcasting and in many countries of the world radio will continue to be the primary means of mass communication for many years to come.

There are, of course, areas of some countries that are still not within easy range of broadcast radio signals, but considerable progress has been made in the last few years in the design and installation of transmitting equipment, so that more and more people each year can receive some radio broadcasting service. We can say then that, for the vast majority of people in this world, it is radio rather than television which deserves to be called the universal medium.

With the invention of the small transistorized radio even more people can be reached. Unlike television and film viewing, the radio listener need not remain fixed in one place in order to receive the information. It is not at all uncommon in many rural areas to see men and women walking along listening to a portable radio carried in a shirt pocket or tied into a shawl or some other item of clothing.

Listener participation

To obtain information from newspapers, magazines and other printed media we must first learn to read, but once we have learned to speak our language, all we need to understand information from the radio is to pay attention to what is being said. Since most non-literate people receive a great deal of their information by word of mouth rather than by reading, radio takes advantage of the listener's pre-disposition to the aural mode and puts it to good use. This is not to say that listening skills cannot be improved and sharpened to yield even better results. A person can be taught to listen more efficiently, and we will pursue this idea later in the book. For now, it is sufficient to note that a radio listener can participate as a learner in the process of communication without extensive instruction and preparation.

It is often argued that radio is inferior to television and film as a means of communication because radio reaches the single sense of hearing, whereas television and film appeal to both hearing and sight. While it is true that radio cannot provide the visual information by means of the medium itself, it is entirely possible to prepare materials with drawings, illustrations, photographs and other graphic representations to be distributed to the listeners as part of their learning experience. This combination of radio broadcasting and printed visual materials, known in many countries as 'radio-vision', will be discussed later in the book.

It can also be said that radio, by *not* providing explicit visual information, allows members of the listening audience to engage their imaginations fully and actively in filling in the visual elements to their own satisfaction. This is particularly appropriate for radio drama since it is intended to create a so-called 'theatre of the mind' in which a whole world of characters, settings and incidents is created which becomes very real indeed to the listener with a fertile imagination.

Immediacy

When we speak of immediacy with regard to radio broadcasting we really mean two different things. First, we mean immediacy in its literal sense: an important piece of information, an occurrence of great importance, an emergency announcement, can be sent out to listeners immediately, without having to set type for printing, or to process film, or trust to the diffusion of the information by word of mouth. Moments after the decision has been made to present a certain piece of information to listeners throughout a region or an entire country, the message can be transmitted with a minimum of lost time.

Immediacy in the other sense is best described as an attitude or feeling about the message rather than the actual time elements involved in preparing and sending the message. It is a feeling which people have expressed by using such phrases as 'I felt that I was right there' or 'They are talking directly to me'. Some very exciting moments have taken place on radio and we must not underestimate the feelings that people experience through a means of communication, beyond the medium's capacity for presenting information and structured learning experiences.

Cost

Since it is impossible to state how much it would cost to operate a radio system in absolute terms, it might be helpful to examine cost in comparison with another method of mass distribution, namely television.

One aspect of cost which is quite obvious to even the most casual observer is the fact that a television receiver costs anywhere from ten to twenty times more than a radio receiver. A television set for the average rural family in most countries is prohibitively expensive, and even a single community-purchased receiver is often beyond the collective buying power of a village or small town.

You can imagine then that the cost of television production and transmission equipment is also many times the cost of radio production and transmission equipment. Because the radio broadcast signal, or sound waves as they are called, travel much further than television signals, it costs considerably more to reach isolated parts of a country by television than by radio.

Another cost factor which is very important is that most countries already have the technical facilities to broadcast by radio, and a corps of trained engineers, writers, performers and producers exists. It is certainly much cheaper to take advantage of existing radio facilities than to try to construct a new and expensive system of television broadcasting which may prove to be financially insupportable in a relatively short period of time.

Many countries have made enormous investments in an educational television system only to find out that it soon drained their resources so badly that little money was left to devote to the preparation of supplementary materials or the adequate training of field personnel. Some of these same countries have re-examined their educational policies, and they have come to the conclusion that an established radio broadcasting system offers great financial advantage over a television system which must be constructed in its entirety.

One final factor in considering cost is that radio will invariably give you what is called a 'lower cost per unit' or, in this instance, a lower cost per person reached by the educational message. You can arrive at a cost per unit or a cost per person by dividing the total cost by the number of people reached. Let us assume, for example, that the construction and operating costs of a radio station amount to 1 million units of your local currency. The total cost of a television station amounts to, let us say, 2 million units of the local currency. Therefore, you say that the television broadcasting system costs twice as much as radio.

On a cost per unit or cost per person reached basis, however, you would see that there is a very different cost relationship. With radio, for example, let us say that you can reach 4 million people, and with television you reach 500 000 people. The cost per person would now look something like this: a radio transmission to 4 million people costing 1 000 000 units of local currency=0·25 units per person; a television transmission to 500 000 people costing 2 000 000 units of local currency=4 units per person.

You can see that the costs can be expressed in two forms: total cost of installation and operation, and cost per person reached. In the example given above, the total cost of television is only twice that of radio, but television costs sixteen times more than radio on a cost per person basis.

Radio in context

We should clarify one important point regarding the use of radio as a means of communicating information and education to non-literate listeners. Radio is not the 'perfect' means of communication. Indeed there is no single means of communication or method of teaching that is totally satisfactory in every respect. Radio has some very positive characteristics to recommend its use in a programme of literacy teaching, but from the experience of many countries throughout the world, it is clearly best used in combination with other media of communication, and with a strong supporting component of field workers who can engage the listeners in that most important mode of communication, person to person.

Finally, I do not wish to give the impression that radio is without disadvantages. It is, as you well know from having listened to it yourself many times, a medium that cannot be stopped for clarification. This is where you as a field worker can render one of your most important contributions in working with radio listeners. There will be times when a speaker on radio presents his information or a lesson too quickly, or in too complicated a manner, and the listener is not able to keep up with the lesson. What you can do precisely to supplement and clarify the work of the radio programmes will be dealt with later in this book. In the meantime, it should be kept in mind that this disadvantage of radio can be reduced considerably with careful explanation and pre-planning.

In the next chapter we will discuss how you can be of great service to your literacy programme by helping programme planners and administrators make a more exact analysis of the listening and learning characteristics of the audience that you will both be working with.

2.3. Summing Up and Looking Forward

from: John Maddison, Radio and
Television in Literacy.
A Survey of the Use of the
Boradcasting Media in Combating
Illiteracy Among Adults.
UNESCO 1971, pp. 33-38

CHAPTER III

SUMMING UP AND LOOKING FORWARD

BASIC CONSIDERATIONS AND FUTURE PERSPECTIVES

Preceding chapters have shown how broadcasting is being used in the fight against illiteracy in a wide range of countries. Largely factual, the survey has nevertheless revealed - and to a greater degree than has hitherto been possible - the variety and interest of these applications of radio and television in literacy.

The time has now come to consider the significance of some of the points emerging from the survey in the light of our knowledge generally of the literacy process and the broadcasting media of expression. Three basic notions - literacy, broadcasting and adult education - and their nature and relationships would seem to be involved.

This is not the place for a detailed discussion of these relationships. But it may be useful to recall briefly one or two of them if only because, on occasion, they seem to be insufficiently understood or taken into account. To begin with, while literacy is a problem affecting great masses of human beings, broadcasting is the most powerful and often the cheapest and quickest means of communicating with such masses. It can also be the only one. Then again, and although it has other aspects - psychological, social and cultural - of great importance, literacy is in one sense an audio-visual process, involving the mastery of visual signs of significant sounds. Broadcasting, and especially television, is an audio-visual medium, and offers particular advantages in teaching an audio-visual technique. This is not a purely theoretical relationship, as some of the replies show. Finally, broadcasting and adult education have a certain degree of special relationship. Indeed, from some points of view, broadcasting is the main instrument of adult education in the world today. This is specially relevant to literacy campaigns aimed at reaching non-captive audiences of working adults in a framework of motivations, of organizational patterns, of methods and institutions which are more diversified and less rigid or traditional than those for formal schooling.

How do these and other characteristics of broadcasting connect up with the practical side of literacy campaigns?

The first point to note is one emerging from, or implied in, most of the replies. It is that the use of radio and television in literacy is only one of a great many such uses. In none of the countries covered by the present study was public broadcasting introduced originally or solely or primarily for the purpose of helping eradicate illiteracy. This may well have been among the grounds for doing so, but more usually it has been one of the beneficial by-products. Broadcasting forms part of the essential telecommunications systems of all countries in the world today. Its purpose is usually held to be threefold - to educate, to inform and to entertain. This is the pattern, though the emphasis on one or other of these three components may vary greatly from country to country. Inherent in any public broadcasting enterprise is the idea of a network, composed of transmitters and listening and viewing points: the latter can be multiplied pretty well indefinitely. The network is in effect an infrastructure and one peculiarly relevant, as we have seen to adult education. Inherent too is the notion of programming, of providing a daily, weekly or monthly periodicity of output at specified hours. Many of the literacy courses both on radio and television referred to in foregoing chapters were part of this output and not something added outside normal programme times, as one often finds with school broadcasts. In other words, the literacy programmes are part of the output the broadcasting authority is committed to providing as a public service anyhow. A case in point is that of the television literacy programmes in Tunisia. These go out as part of the evening programme scheduled and are followed by many more ordinary viewers than those in the original classes. Certainly such literacy programmes inform, and there is also, as we have seen, reason to believe that they entertain, besides fulfilling their primary rôle of instruction. In this field of education, where the need to activate is great, the capacity of broadcasting to make instruction palatable is highly significant.

The implications of this do not seem always to have been understood, especially their effect on the way we approach questions both of cost and of scale.

With regard to cost, it is obviously important to realize that, except in so far as the network (transmitters, receivers and the services needed for their maintenance) or any part of it, has been created and exists specifically and solely for use in literacy, these "hardware" costs should, strictly speaking, fall outside literacy budgets. This can also be true of certain programme or "software" costs where literacy broadcasts are part of the service to the public generally. Seen in this way, the costs of using the broadcasting media, especially radio, can work out much more cheaply than is realized. In some of the cases reported, the only provision at the receiving end is a cheap transistor radio for one person or a family or group. Basically, in such cases, the reception cost is a part of the cheap receiver and its upkeep, proportionate to the time spent on listening to the literacy broadcasts and total listening time. One must obviously avoid oversimplification, but it does seem essential to be clear about the assumptions on which costs are based.

In any case, overall costing is complicated in the audio-visual media and particularly so in estimating the returns from them. Understandably therefore, replies to the questionnaire on this subject had little that was concrete to offer and many stressed their need of more adequate resources for this type of analysis. There is indeed a general lack of data on this aspect of broadcasting in literacy. In recent years, the most useful inquiries have been the series of case studies covered in The new media: memo to educational planners(1). The cases described in it and the companion volumes deal largely with projects involving formal education or uses of adult education other than in literacy. One or two of the projects referred to in replies to the present questionnaire are however covered in these case studies(2). The cost analyses provided in these volumes do not, as far as one can gather, allow for the general public service budgeting provision we have referred to in the case of Tunisia and which applies in a number of countries covered by the survey. If they had, one suspects that the true costs of literacy broadcasting would be less than they calculate and even less than the lowest figures they give for school broadcasting - of the order of 5-15 cents per pupil hour for television, and 1 or 2 cents per pupil hour for radio(3).

Obviously, much depends on the scale of operation and here, as Schramm and his co-authors point out for the projects they are concerned with, the replies to the questionnaire suggest that "the potential economics of scale have not been fully exploited".(4) There are limits below which the use of broadcasting becomes uneconomic. Broadcasting is after all one of the mass media. For teaching literacy at the level of a single industrial enterprise or for a small community, broadcasting is scarcely viable. This apart, it is not easy to generalize about what the lower limits are. But the figures given by the Director-General of Unesco for its experimental functional projects (70,000-250,000 adults) are well above the minimum limits acceptable for important minority audiences in quite major public broadcasting systems.(5) An important proviso is however that the target audience should be spread geographically over the whole network, or where regional audiences are aimed at, a regional network exists for that part of the country. Much experience has shown that minority programmes on this scale on both radio and television can popularize and teach fairly specialized subjects. Television is particularly suited to helping to teach the functional type of literacy, which consists of adult instruction in psycho-motor skills with a built-in literacy component. In saying this, one should not however overlook another function broadcasting can perform, in some ways uniquely so. This is to combine instruction in literacy with the enrichment of men and women as full and effective members of their community who constitute after all the most precious of human resources.

It should be underlined that audiences reached by the projects referred to in the replies did not usually exceed 70,000 adults and were often far fewer. Another figure, for rural functional literacy projects mentioned by John Bowers, is 10,000 farmers.(6) This target figure is economically quite viable for radio and can be justified for television. Even in developed countries, figures of this order are acceptable for television for adult educational purposes e.g. refresher courses for medical doctors. However broadcasting is certainly not an economically justifiable instrument to use for projects whose targets, are according to Bowers "a few dozen operatives in a particular

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1. By Schramm, W., Coombs, P.H., Kahnert, F., Lyle, J., Unesco IIEP, 1967
2. New Educational Media in Action: Case Studies for Planners; I - including The years of the radio rural forum in India; II - including Le Telescuela Popular Americana of Arequipa, Peru; and Teaching literacy by television in the Ivory Coast; III - including Radiovision as an aid to literacy teaching in Niger; and The radio schools of Honduras; and The Centro de Telescuola programme of Italy.
3. Ibid., p. 131
4. Ibid., p. 126
5. Cf. Experimental World Literacy Programme, Report of the Director-General to the 83rd Session of the Executive Board of Unesco, September 1969, Ref. 83 EX/32, Para. 16.
6. Bowers J. Television and Functional Literacy: A Presentation of the Problems. In Educational Television International, Vol. 3, No. 4, December 1969, p. 243.

industry". But then neither would the production of any other sorts of media - even cheap print or posters - be justified for so tiny a slice alone of the world's eight million illiterates !

The questionnaire referred to the use of other media besides radio and television (Question Nos. 23 and 28). Most of these other media are, as we saw, being used in one way or another. But there was not as much awareness as one would have hoped of the concerted use of the so-called "new media"(1) though one would have thought literacy offered an interesting field for the "multi-media" approach which more and more educationists are favouring. This approach involves planning and using all the available instruments of teaching and communication in a well-co-ordinated fashion in which each of them fulfils the rôle best suited to it. There are clearly obstacles, particularly financial ones, in the way of doing this for some countries. As one reply to the questionnaire showed, adding to sound radio so simple a device as filmstrip projection (radiovision) can be beyond the present means of a developing country. Nevertheless, a number of replies did illustrate the advantages of concerting the use of radio and television in a wider audio-visual complex of media. It was significant that some of the freshest ideas came from countries like Algeria which practices to some extent a "multi-media" approach.

To such an approach, broadcasting and especially television, is or should be the key factor. While sound radio is so much cheaper, television has the advantage of providing a synthesis of all the available aids to learning. It unites virtually all the other techniques, including the immensely flexible "language" of the film. Editing and such processes as animation, superimposition, stop and slow motion can be applied to literacy teaching within the framework of the immediacy and the personalized teacher-student *rapport* of good broadcasting. There was evidence that these potentialities are to some extent being understood. For example, certain replies underlined the value of the medium for the "teleguidance" of teachers and instructors in new methods. Television's power to demonstrate in this way new techniques and new methods is not the least of the advantages it bestows.

The influence of television on the *quality* generally of literacy education should also not be overlooked. The working party for the Unesco meeting on *The Experimental World Literacy Programme* held in Paris in December 1969 spoke of the necessity of providing exemplary "centres of excellence" for every literacy project.(2) In a different sense, a good television literacy lesson is of itself a "centre of excellence" whose impact can pervade the whole communications network of a country.

Quality obviously hinges on the adequacy of the training of those responsible for producing and using programmes. The replies suggested that training is one of the less satisfactory aspects of the use of broadcasting in literacy work. This may have particularly unfortunate consequences. Quality of communication is essential to what, for many observers, is the most characteristic feature of the audio-visual media - their rôle as "multipliers". These media, and especially television, multiply whatever is put out through them. Both poor quality and excellence at the source are magnified enormously. Investment in first class training, especially of creative and technical personnel, can therefore yield benefits quite out of proportion to the costs involved.

Fortunately, this is an area in which international co-operation can be especially effective. In reading some of the replies, one is struck by the value to training of the contribution of Unesco experts and those from certain countries. It is particularly heartening to find the younger technicians in some developing countries so anxious to explore and experiment with new techniques in teaching literacy, and wanting access to more knowledge of such techniques available in other countries. This is surely one of the most important of growing points.

SOME RECOMMENDATIONS

The survey has shown that broadcasting is making a valuable and in some cases essential contribution to literacy campaigns not only as a teaching medium but in other ways. It is clear also that this contribution could be greatly increased. With regard to this, two important lessons emerge from the survey:

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1. Of the "new media", *The Memo for Educational Planners*, already referred to, writes: "This name, fortunate or unfortunate, distinguishes them from the 'older' media, such as the textbook or the blackboard. The older generation of media places a 'machine' in the communication process, in effect, to reproduce a teacher's writing for his students. The 'new' media place a machine or other electronic device in the communication process in such a way as to extend a student's sight and hearing through space and time so that he can actually see and hear the teacher or what the teacher wants to show him" (p. 13). The Memo goes on to discuss a still newer generation of teaching devices, in which the student uses a responsive machine - a printed programme, a teaching machine, a language laboratory - and practices by communicating with it back and forth.
2. ED/CONF.53/9 Annex VI, p. 10. This paper mentions another important function of radio, covered in replies to the questionnaire, namely as "a way of disseminating the best fruits of experience *via* a sufficiently large but insufficiently trained group of instructors".

(a) all the various ways of using radio and television should be fully exploited in all countries with a sizeable problem of illiteracy;

(b) this should be done as part of an overall plan to develop the new techniques of communication for economic and social, and especially educational, advancement.

Putting available broadcasting resources to all useful purposes makes obvious good sense. All countries have sound broadcasting networks and the number of those with television increases steadily. Even seven years ago, Wilbur Schramm could write that a substantial number of developing countries had television and day-time (or other) screen time available for educational use.(1) Since then, as the survey shows, the number of such countries has gone on increasing. These existing audio-visual structures, and others as they come into existence, can, as replies to the questionnaire have underlined, be successfully used in launching campaigns and creating favourable climates for literacy projects, in circulating information, in motivating students, in instructing them and their teachers both in fundamental literacy education and in specific work-oriented skills, and in eradicating illiteracy generally among groups and individual home students. Unless there are overriding reasons to the contrary, failure to use the broadcasting media in any or all of these ways would seem to be a failure to exploit not only the potential economics of scale but those advantages which can be obtained by diversifying the uses of available resources. The repercussions of waste in this area can be very wide indeed for broadcasting is an essential part of a nation's resources as a whole. This thought was expressed, in terms which seem well worth recalling here, by the Meeting on Broadcasting in the Service of Education and Development in Asia, convened by Unesco at Bangkok in 1966: "Broadcasting should be considered part of the country's basic facilities like harbours, roads, electricity, for the provision of which funds are invested not merely for immediate and identifiable results, but which are rightly believed to promote a long-term increase in national production. As with investment in education, broadcasting resources should be expected to yield results in the form of an informed, motivated and skilled people, leading to the increased availability of productive manpower whether in urban or rural areas".

The use of the new technologies of communication as an integral part of wider national development is therefore sound, both economically and socially. In other words, radio and television should not be seen in isolation but in relation to national planning generally. This national planning should cover the use of all the various media of communication among which broadcasting will in the nature of things have a predominating rôle. A "multi-media" approach in education would seem to offer particular advantages in literacy projects. How this works out in practice will vary from country to country but some degree of centralized functioning would seem to be essential. Clearly, this poses problems administratively but these do not seem insuperable if an important principle is observed. Two sorts of skill are involved in using the audio-vidual media in literacy work - those of the educators and those of the media professionals; the symbiosis between their two functions we have referred to is fundamental to success.

The survey suggests two further directions in which effort might be redoubled, at the very least. These are (a) research and (b) training.

RESEARCH

Many of the replies stressed the need for research. As to the kinds of research that are most required, we would suggest that inquiry into whether broadcasting eradicates illiteracy is no longer necessary, but that attention should rather centre on how best it can help to do so. There is a need particularly for research of the "action" type in which results are fed back continuously into planning and research

Research into methods and also materials, both "hardware" and "software", is obviously called for.

One area of research which is fundamental seems to have been almost entirely neglected - the relationship between literacy teaching and learning and the specific qualities of the audio-visual media - the "language" of broadcasting, and the grammar and the syntax of screen expression. There is need for experimentation and inquiry into how the techniques of television (and film) editing and the camera movement and so on might best be used, and which of them are or could be the most effective in reinforcing learning in the field of literacy. Such experimentation might well include animation and reverse and slow and stop-motion cinematography and specialized see-through techniques for presenting letter and script formation similar to those used with great success in certain films on art whereby the artist draws or paints on glass screens facing the camera. Experiments of this sort might be undertaken in respect of the interpretation of language generally or of one particular language or language group. It would call for a new kind of creative co-operation between linguistic educators and experts and the professional communicators. This would be all to the good and might reveal new uses in literacy for the highly flexible resources of audio-visual expression

As we have seen, replies to the questionnaire gave little evidence of a multi-media approach to literacy work. More demonstration and persuasion could possibly be useful in modifying attitudes. Experiment might serve to establish the value of

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1. Schramm, W. Mass Media and National Development, Stanford/Unesco, 1964, pp. 170-171.

the concerted use of radio and television along with other media in learning reinforcement. Certainly, research could contribute to our knowledge, at present largely empirical, of the variables involved. Suitable experiment might aim at bringing out the differing and complementary rôles of sound radio, television, film, filmstrips, and other aids, as well as such techniques as programmed instruction; and the types of organization best suited to exploit their co-ordinated use. In the present "state of the art" in this field, it would be unrealistic to expect any full-blown adoption in most cases of a systems approach. But undoubtedly the more systematic application of the media to literacy is one direction from which progress may be expected to come.

The need for more efficient feedback emerges from the replies. This is true also of ways of evaluating results. In both areas, research might be directed towards the development of practical methods taking into account the nature of broadcasting and the related media and also the limited scale on which in many cases such processes must operate.

The cheap transistor has brought radio within the reach of vast numbers of people to whom television remains inaccessible, even where a transmitting network exists. The most urgent objective in the field of technical research would therefore seem to be to devise a television counterpart i. e. a low-cost battery-driven television receiver - sturdy, reliable, easy to maintain and relatively fool-proof. Engineers and manufacturers should be actively encouraged to apply research and development to the production of new equipment on these lines. As Brian Kirby has pointed out, there would seem to be a large potential market for such a receiver.(1)

Another area of research which seems to have been neglected is that of the design and content of textbooks and other printed matter in support of broadcasts. Such neglect may be due to the general tendency we have noted to use the same printed matter as for more conventional literacy work and not to be aware that the broadcasting media call for special thought in the structuring and lay-out of pupils' and teachers' handbooks and guides. This applies to television and also to radio, all the more so because of the latter's need for visual backing to the sound component.

Where television literacy programmes call for filmed or videotaped coverage of a cultural, social or scientific nature, experience suggests that a good deal of unused footage which could enrich programmes of this kind exists in various countries and could be made more readily available. But this would require further study of the whereabouts of such materials, their accessibility on practical and economical terms and most of all, their genuine value in respect of subject-matter and quality and their suitability for international circulation.

By far the greater part of the materials used in television and radio programming for literacy work must in any case be provided on the spot. In respect of production facilities, there are however a number of areas in which knowledge and experience in various countries might be pooled e. g. in solving problems of providing adequate studio space economically and the minimum apparatus, including cameras and editing and animation equipment necessary for good work. Another factor here is what resources are available from a country's national broadcasting authority. Ultimately, everything will turn on the quality of those creating (and using) the programmes. This brings us back once again to the question of training.

TRAINING

It cannot be too strongly emphasized that the broadcasting media, and especially television, are new forms of expression and communication calling for skills of a high technical and professional quality. Standards need to be maintained and the key to this is proper professional training. The survey suggests that much more attention should be paid to the training of creative, and also technical and maintenance, personnel. This should, we suggest, cover both facilities within the trainee's own country and region and in the developed countries. Criticism has been levelled at some forms of training in developed countries which have failed to take sufficient account of the home circumstances of trainees. Obviously this defect should be overcome and courses tailored to the trainees' needs and the local technical and other conditions in which he will have to work. But at present few centres appear to offer this kind of specialized service. The increased provision of facilities for the professional training of broadcasters is clearly a most important objective towards which international co-operation might be directed.(2)

The greater use of the audio-visual media themselves for training purposes might also be fostered by international effort, through, for example, the production of basic training films on the techniques of making and using literacy broadcasts.

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1. Kirby B. "Television and Functional Literacy: Some Comments". In Educational Television International, Vol. 3, No. 4, December 1969, p. 244.
2. The First URTNA Conference on Educational Radio and Television at Algiers in October 1969 discussed this problem in detail, and underlined the wide range of training needed, for example, in the African continent.

NEW PERSPECTIVES

Finally, there is the relationship between the fight against illiteracy and the exciting new possibilities opening up in communications generally. One reply (from Yugoslavia) looked forward to the much greater use of electronics and cybernetics in this field. Certainly, the potential uses of the unfolding techniques of, for example, satellite communication need to be studied in hard, practical and detailed terms.

We began by suggesting that the use of media in the fight against illiteracy might be an important feature of growth in the Second Development Decade of the United Nations. In sober truth, the audio-visual media would seem to be capable of virtually wiping out the scourge of illiteracy by the end of the Second Development Decade. This would call for a substantially higher degree of material investment than at present but a far more modest one than present investments in certain other forms of human enterprise. It would call for something else - a fresh and exceptional effort of the will. What would be needed would be to rethink the concepts and the methods of using these new instruments of communication in the battle for literacy. Here and there, in foregoing pages, the first signs of a new way of learning have appeared. This is the direct contact, without the intervention of other skilled or semi-skilled human agents such as monitors, "animateurs" and the like, that broadcasting makes possible between an outstanding screen or studio teacher and a nation-wide student body of individuals or of groups. To develop, to perfect and to generalize this new methodology would however require a very considerable effort indeed of experiment and research, and a readiness to accept new ideas.

The rewards would be great. The audio-visual media could, if men so willed it, reverse the present alarming trend whereby illiteracy goes on outpacing the effort to eradicate it. The Yugoslav reply called for broadcasting to come more quickly to the aid of the world's eight hundred million illiterates. And why not?

3. PLANNING THE USE OF RADIO

3.1. How should the Use of the New Media be Planned?

from: W. Schramm/Ph.H. Coombs/ F. Kahnert/
J. Lyle, The New Media: Memo to
Educational Planners. UNESCO/IIEP
1967, pp. 159-172

5 How should use of the new media be planned?

This final section is addressed especially to top educational administrators and planners in developing countries who are contemplating the introduction or expansion of the new media. They are likely to have in mind the same questions with which we started this memorandum, but probably would state them like this: Can these new media really produce important educational results for me? Can I afford them? How do I get started?

Are they educationally effective?

The answer to the first question is clearly in the affirmative, as we have seen in Chapters 1 and 2. The new media can produce significant educational results, if they are properly and sufficiently used. Our case studies show that they can meet a great variety of educational needs, both in-school and out-of-school, and can make a significant difference in the quantity and quality of learning. But good results are not automatic; they depend on how the media are applied to a problem and whether they are competently used; in particular, the best results come only when the new media are well integrated within a larger educational context.

What we would emphasize above all else to any potential user of new media is that the principal aim of using any new educational medium is to stimulate and promote learning activities at the receiving end. For this to happen, the media must be *integrated*, just as a textbook or a black-board must be, with all the other learning elements in the receiving situation. The media should not be expected to do the whole job themselves, and they should not be simply superimposed on the previous pattern of activities as a kind of fringe benefit. They should change the previous pattern and become a new and integral component of a new or modified total teaching-learning system, whose purpose is clear and whose various components are well integrated and mutually reinforcing. We say this with particular conviction because new educational media have not always been viewed in these terms; they have often been seen as something quite separate and self-sufficient, and where this has been the case the results have tended to be inconsequential and disappointing.

Can users afford them?

This question has no simple answer, as was evident in Chapter 4. Economic feasibility depends on where, how, and for what purpose the new media are used, and each situation must be examined on its own merits. It can be stated as a general rule, however, that by their very nature the new media, especially the 'mass' media of radio and television, must be applied on a substantial scale—to serve a sizeable audience with sizeable amounts of programming—if the cost per student is to be brought within the zone of economic feasibility. What is feasible will, of course, differ from one country to another according to the economic and educational resources available. A closed-circuit television system providing a large portion of the curriculum for twelve grades is economically feasible and educationally sound for Hagerstown, for example; but a developing country with much less to spend per student could only afford this particular system, if at all, by making it serve a much larger number of students so as to bring unit costs within reach. In short, 'economies of scale' are everywhere a major key to the feasibility of the new media.

We had these economies of scale in mind when we spoke earlier about the minimum 'critical mass' required to make the new media worth while. The critical mass will differ in size from case to case, but there will always be some programme and audience size below which it will not pay to use a particular new medium. Hence, for example, instructional television with its more limited geographic range is most likely to be practical in densely populated school areas. Instructional radio, on the other hand, though it will not have equivalent educational versatility and impact for some purposes, often finds its greatest comparative advantage relative to television in sparsely populated rural areas where, because of its wider reach, it can still serve a sizeable body of students at low unit cost.

It should be remembered that the critical mass idea applies also to the educational side of the equation, which must always be seen in relation to the economic side. If each student or subject or educational objective gets only a trivial amount of service from the new media, the educational impact is also likely to be trivial. Thus, feasibility must be judged in terms of the relationship of costs to results and not by costs alone. Minor educational results bought at a bargain price may have far less justification than sizeable educational results that cost more.

Finally, on this matter of costs our evidence does not support the gloomy assertion one sometimes hears, that the new media are an educational luxury which only rich countries can afford. Certainly these countries can afford some uses which others cannot. But many developing countries whose urgent educational needs greatly exceed their resources will surely find that some of their needs can only be met—at tolerable costs and in reasonable time—by a carefully conceived use of new media. Far from being a luxury in such situations, they are a necessity.

We turn now to the third question—how to get started?—which takes up the rest of this final chapter. Let us begin by noting certain basic conditions which must be present or must be created right at the outset if there is to be a strong chance for success.

Prerequisites for success

The most important of these is that everyone who will have an important role in the undertaking must be really serious about it. By this we mean that the key educational, financial, and other officials who will decide on the project or who will later direct its destiny should have clearly in mind an important educational problem (or problems) which they wish the new media to help them solve, and should be seriously committed to making a substantial and sustained effort to this end. They must not simply be enamoured of a new fashion or of toying with a new gadget. If the project is to be undertaken at all it should be viewed as a priority and not as a marginal activity. This commitment should be sufficiently broad-based so that support for the project will continue even if one or several of its initial proponents should later leave the scene, as so often happens. Numerous new-educational-media projects—fortunately not those reported here—have taken off with promise and then fallen to earth with a thud, simply because the enthusiastic foreign expert or creative local official who started them went home or changed jobs.

Along with serious commitment there should be harmony and unity of purpose among all the agencies—public and private—that must co-operate to make the project succeed. This applies in the case of radio and television, especially to the ministry of information or whoever controls the broadcasting facilities, and to the ministry of education, which is the main client for educational broadcasts. Not infrequently, as we have seen, the initiative for a new-media project starts with the media experts. But costly experience shows that unless the educators are brought in at an early stage and given a major voice in what problem is to be attacked, what content is to be broadcast and how it is to be used, the instructional programmes, however good, will fall on deaf ears. And this includes not only the educators at the national level, but also those who will use the programme at the local level.

Finally, success depends on having a good plan of action, from the outset, long before the electronic tubes light up. We stress this because a majority of the projects we studied suffered from inadequate initial planning. This is not said in criticism of the pioneers who launched them, for after all they had few precedents or guidelines to go on and were usually under pressure to produce quick results. But they would be the first to urge others to learn from their mistakes as well as their successes, and they would emphasize above all the need for careful planning.

In speaking of planning, we want to avoid creating false expectations or giving a counsel of perfection. Educational planning is neither an end in itself nor a formula for achieving the impossible. It is simply a method of getting more and better educational results from the resources available, by using the tools of rational analysis and scientific research rather than by 'flying blind'. Such planning in practice, whether for a whole national system of education or for a sub-system within—such as one embodying new media—can never be perfect or final, if only because present facts are never complete and future developments can never be certain. But choosing a destination before the trip begins and mapping the route and time-table as carefully as possible, especially through unfamiliar territory, invariably improves the journey.

How does one go about making a road map for a new-media project, taking maximum advantage of the earlier lessons of others? We recommend a 'systems approach'. Let us explain what we mean.

A systems approach to planning

Essentially the systems approach involves viewing any productive system as a whole in order to examine how its productive process functions in relation to its resource 'inputs' and its intended 'outputs'. This analytical approach can be usefully applied to all sorts of productive systems, including an educational system and its various sub-systems.

A 'systems analysis' begins by defining as clearly and precisely as possible the objectives to be sought. It then proceeds to identify the various alternative ways by which these objectives might be attained and to weigh the relative advantages and disadvantages of alternative approaches in order to select the most effective, feasible, and economical one. Having chosen what seems the best alternative, it proceeds to elaborate a plan of action, including a time-table, a definition of actions to be accomplished during each phase, the various resources that will be required along the way, the nature and timing of results anticipated, and practical means for regularly evaluating progress and for making necessary changes in the initial plan. Any such plan must be tested and re-tested for feasibility during the process of designing it and is likely to go through several revisions before it is ready to be put into action.

The hallmark of this approach is that it views any particular way of solving a problem, of pursuing an objective or of getting certain work done, as a coherent 'system', in the same sense that an engineer uses the term. It perceives a system not as a static structure but as a dynamic, well-organized and integrated process, having four main features:

Objectives	Well-defined tasks to be accomplished
Inputs	Resources (manpower, materials, etc.) needed to accomplish the tasks
Process	The methods, technologies and organization which combine and actuate the inputs to produce desired results
Outputs	The results actually accomplished

There are several advantages to using this 'systems approach' in educational planning. First, it encourages a clear definition of objectives—indeed it insists upon this—not just in broad rhetorical or philosophical terms but in practical operational terms that provide a clear basis for organizing the effort and checking on results. All of us in education are well aware of the great wastes of energy and of the misunderstandings that can result when there is a lack of clarity of objectives. Educational planning, curriculum development, teacher training, the preparation of textbooks, and other essential activities involved in educational development cannot advance very far until the objectives and priorities have been clearly defined.

Second, the systems approach obliges us to recognize all of the components that go into any particular educational process—such as the teaching of arithmetic or the learning of a foreign language in an elementary school—and the need to orchestrate these components into a unified, efficient, and effective process. Looking at a 'teaching-learning system' in this fashion we can detect weak spots and failure points that need remedy. We may also be inspired to ask how the components might be combined differently, or what new components might be added to get better results. In other words, we are encouraged to consider alternative ways of doing the job and to compare our customary ways with ways that may prove better. We may also have our eyes opened to new ways of meeting important needs which cannot be met by conventional means. In short, the systems approach opens new paths to extending education and to improving its quality and productivity.

Third, it focuses attention sharply on the important need to evaluate educational results—the outputs—in more specific and relevant terms than simply the number of school-leavers or graduates, or the proportion receiving particular grades on some standardized examination. The difficulties of defining educational objectives and then finding out how well they are in fact being achieved are well known to educators. But unless we come to grips with this thorny problem as best we can there will never be a satisfactory way of judging the efficacy of any particular educational method, or of finding ways to obtain the best educational results from the resources available.

Fourth, the systems approach provides a way of dealing with costs and efficiency which makes both educational and economic sense. The *efficiency* of an educational system is not an absolute; it is the relationship between the system's inputs and its outputs (judged in relation to its objectives), and it can be changed. If we can find ways to adjust the present process so that with substantially the same inputs the quality or amount of the output is measurably improved, or so that a given increment of resources will yield a more than proportionate gain in educational results, then we have made a gain in efficiency.

Finally, and especially important for developing countries right now, the systems approach can provide help in bringing about much-needed educational changes. By encouraging a more comprehensive and systematic examination of the existing system it can identify the specific things most in need of change and the best leverage points for securing improvement. It can lead to a classification of important objectives which the present system is not achieving and perhaps simply cannot achieve in its present form for various practical reasons. In this event it leads us to search for new solutions, sometimes involving unconventional technologies such as the new media. It provides a clearly defined purpose for whatever innovations we may undertake, it provides an orderly basis for planning such innovations so that they have maximum chance of success, and it provides a rational basis for evaluating their effectiveness in comparison with other solutions.

With these general points in mind, let us now consider more specifically how the systems approach may be applied to the planning of new media use in education.

Defining the objectives of the new media

Throughout this report we have stressed that introduction of a new medium should begin with an important educational problem to be solved, not simply with a new medium that someone thinks should be used.

There are many such problems, as we have seen, which new media can help to solve. Since they cannot all be tackled at once, the first need is to look these problems over and decide which ones are most urgent and appropriate to approach in this fashion. Our recommendation is that first consideration be given to important problems which clearly cannot be handled effectively or quickly enough by ordinary means. In other words, an attempt should be made to use these new means to solve otherwise insoluble problems, and in this way one is likely to make the most strategic and productive use of them.

As we reflect upon our case studies and upon the common educational problems facing many developing countries today, it seems to us that the following objectives are among those likely to qualify for serious consideration in many countries. They are offered here by way of illustration, not as a priority list applicable to all countries:

1. Raising the level of instruction in class-rooms served by poorly qualified teachers.
2. Upgrading large numbers of poorly qualified teachers already on the job.
3. Bringing educational opportunities—even of a less than ideal sort—to youngsters who cannot be accommodated by regular schools.
4. Bringing literacy and useful knowledge to farmers and other rural dwellers, and stimulating action on their part to improve agricultural productivity and rural life.
5. Filling critical curriculum gaps, such as science and mathematics or foreign languages.
6. Providing literacy and practical knowledge to poorly educated urban workers that would enable them to improve their productivity and employment status.

The acid test in a country poor in educational resources, we suggest, is whether a particular educational task entrusted to the new media will make a significant contribution to national development, an increase in the effectiveness of other educational efforts, and a real improvement in the daily lives of the 'learners'. If the new media can contribute to economic development they will hasten the day when more resources will be available to meet more of the nation's unfilled educational needs and aspirations.

The components that must be planned for

In one respect a new-media system (by which we really mean an educational system or sub-system containing new-media components) is like an automobile: all its essential components must be present and functioning well or it will not run efficiently. A dead sparking-plug, a flat tyre, a malfunctioning transmission or dirt in the fuel line will reduce the car's efficiency, or even halt it altogether. With a new-media system, all the necessary parts must likewise be there in sufficient quantity, in good working order and well co-ordinated, or it will not function well. A strong television signal transmitting a poor-quality programme, or sending a good programme to a class-room where the teacher does not wish, or know how, to use it—conditions like these make for a malfunctioning system. Some of the cases we examined were malfunctioning. A crucial component was weak or missing. The allocation of resources among the crucial parts was out of balance. The 'feed-back' system for detecting trouble spots was not performing well. All such malfunctions are susceptible of correction. But if they are anticipated in advance by good planning, the system is more likely to work well from the outset.

What are the main components that should be planned for in advance? They will vary somewhat according to what media are used and for what purpose. In analysing a system employing radio or television it is useful to distinguish between the sending and the receiving ends, and among the four main types of components: (1) technical, (2) content and teaching, (3) supporting communication and evaluation, and (4) training provisions.

TECHNICAL COMPONENTS

These include mainly the production and transmission equipment and facilities at the sending end, and the receiving sets and related equipment at the receiving end. You as an educator (if we may be permitted for a moment to address our comments directly to the readers for whom this chapter is primarily intended) must rely on technical experts for advice on the acquisition, installation, operation and maintenance of such technical equipment. Even with good local technical advisers, you or your colleagues will be well advised to visit a few other educational media installations to check the technical advice you are getting against the experience of others.

The things for you to keep in mind when you look at the list of equipment and facilities you are advised to provide, are whether you are over-building or under-building; whether by preparing at the beginning for expansion, or by expanding facilities in phase with programme expansion, you will be able to do the job more cheaply; and whether all requirements of the system are being provided for, from the sending to the receiving end. Your technicians will have to consider many details—for example, not only such large matters as how much power you should have in your transmitter and how high your tower needs to be (if you are to have a transmitter and a tower), but also where the receivers should be placed in the class-room, and how they should be protected from the weather and from possible human damage.

The technical requirement most often overlooked or underestimated is the maintenance of receivers. This requires a special organization and personnel, an adequate supply of spare parts, and a quick and reliable means of communication and transport. Someone competent to do so should work out the practical details of a well-managed maintenance system. Incidentally, all of your maintenance problems will be lessened if you have the same standardized equipment throughout your system—and not a dozen different types of receiving sets, for example, for which your repair crews will need training and will need to keep separate spare parts.

There is also the troublesome problem of continuity and stabilization of electric current for operating both transmitters and receivers. This may be beyond your control, but if there are likely to be problems here it is well to provide in advance for meeting them.

As important as the equipment is, the qualified personnel to operate and maintain it is just as vital. Possibly you will need a special training programme to develop a sufficient cadre of technical personnel, at least at the beginning. Early in your planning process you will want to get a good estimate of how many of each different type of technical personnel will be needed, and a reliable indication of how many are already available.

The ideal, of course, would be to have the technical part of the system working so smoothly that you could stop worrying about it and give all of your attention to the teaching you want to do within the system.

CONTENT AND TEACHING

This is the heart of the matter. It includes not only the content of the programmes to be broadcast but the corollary learning materials that will be needed on the receiving end to make these broadcasts fully effective, such as printed texts, teacher manuals, and correspondence-course materials if this is your approach.

Before programmes and materials can be planned and produced, it must be clear to all concerned what the specific objectives are and what ground is to be covered. This is your chance, if you will take it, to review thoughtfully what you want to teach. Considering the national goals, and the best forecast you can get of manpower needs as they are likely to be when your students enter the market, what kind of curriculum ought you to be teaching? What kind of mathematics? What content in the science and the social science courses? What vocational or special skills? If you want to change the kind or level of instruction, how fast ought you change it? Then there are a number of questions that will occur to you about the kind of teaching you want to encourage with your media system. How much lecturing do you want to encourage with your media system? How much lecturing do you want your teachers to do? Do you want to provide them with drill material? Do you want a lot of student discussion? How much do you want to encourage the students to go off on learning excursions of their own? The point is that this is a chance you may not have again for a long time. You are about to make a dramatic change in the on-going activity of your schools; this provides an excellent opportunity to review fundamental goals and means.

The planning of detailed content and preparation of the programme should, of course, be assigned to the ablest people at hand. The making of content will need to start long before the project reaches the class-rooms. Do not underestimate the lead-time you will need. Many of our cases have found it useful to involve a number of class-room teachers as well as the studio teachers and their advisers in planning and making the content; this spreads the interest and the sense of involvement.

Needless to say, the quality and effectiveness of the content (your broadcasts, films, supporting materials or whatever) will depend on the quality and special abilities of the people who produce them. We urge you to settle for nothing less than the most talented educators and scholars you can find. The whole effort hinges on them. They should be given ample time to think through their course and prepare it painstakingly, and they should get all possible help, for example from people who can track down or prepare good demonstration materials, pictures, graphics and the like. Here again you will be well advised to calculate your personnel requirements well in advance and take time enough to fill them well. It is preferable to use indigenous talent wherever possible, although in the early stages you may be obliged to rely in part upon outsiders.

But in your concern with providing excellent studio teachers and writers at the centre, and technology to deliver their products, do not lose sight of the receiving end of your system. Your main purpose is not merely to deliver good teaching and good materials to the class-room or the study group, but to *make learning occur* there. This does not happen without being planned for. The way you make the system's content, of course, will have a great deal to do with it, but you will need a planned context for this material at the receiving end. One of the conclusions we can draw most confidently from our cases is that the instructional media in almost every case are notably more effective if they are received in a well-supervised learning group. If you are serving class-rooms, you will already have a group, but the teacher may need help—workshops, exercises, guidance—in learning how to conduct an active learning group, and to relate the activities of the class-room to the stimulus from the medium. If it is an out-of-school group, then the monitor will need even more help and guidance, and probably some training. Either the teacher or the monitor will need frequent advice, and chances to ask questions and report problems. If you are going to use relatively untrained monitors or unqualified teachers, then you will probably need to build an in-service training programme into your system. From our cases, and from the experience of other school systems, you can derive some suggestions as to how this can be done.

If you are not able to bring your students together in a group, then you will have to plan other two-way communication for them—correspondence study, perhaps, or an opportunity to send in papers to be graded, or telephone consultations, or itinerant teachers. In our cases you will find also a number of examples of how school systems have accomplished this.

SUPPORTING COMMUNICATION AND EVALUATION

For this kind of service to operate well there must be a steady flow of information, ideas, and assistance among all the main parties involved. Failure here has often been a major source of inefficiency. This kind of supporting communication must be provided for so as to cover the following critical functions:

1. Participation by prospective users in deciding what programmes are to be offered, in what form, and how they will be used. Early discussions with representative class-room teachers and headmasters will greatly increase the acceptability and actual use of the new service.
2. Continuous consultation and co-ordination among all those at the centre whose combined efforts are required to make the system work—the broadcast

and educational policy-makers, the educational-programme people, the technical people, and the evaluators.

3. A reliable flow of information and technical assistance from the centre to the users, particularly the teachers and monitors who must orchestrate the learning resources and activities at the receiving end. This includes advance notice to teachers of what programmes are coming and when, advice as to what they should do to prepare and to follow up, and suggestions on handling special problems. They will need visits fairly often from informed persons who can coach them (if necessary), encourage them, listen to their problems and help solve them. It is essential that they feel like important members of a team—which they indeed are—not like forgotten men.
4. A feed-back flow, from users to the centre, of evaluation data which can be used to check the performance and effectiveness of the system. This includes specific comments by teachers, students, and observers on broadcast programmes and on the complementary materials; on student interest, motivation, attendance, and performance; and on technical problems encountered. This feed-back should be as regular, as frequent, and as uninhibited as possible. Adequate provision should exist at the centre for digesting such information promptly and putting it to work to improve all aspects of the system. Besides receiving written reports—and often far more valuable—the studio teachers and other observers should visit class-rooms when they can, to see for themselves how the programme is working. If possible, you will probably want to have workshops with teachers from various reception points. (Your studio teachers, incidentally, will need much self-confidence, a 'thick skin', and a large capacity for self-criticism and flexibility. They will have to learn much on the job, and their second time round will be better than the first.)

The logistics for these various forms of supporting communication will require careful planning. Some can be done by mail, but in many places the mail service is unreliable. Some will require travel—the professional visits, for example, and maintenance calls—and this may call for special vehicles.

TRAINING PROVISIONS

The human resources in a system such as this are even more critical to success than all the technical resources, and the most important human resources are usually in short supply. This is why so many new-media projects depend heavily on foreign personnel to get started, but the object should be to develop competent local personnel as quickly as possible. Too often the outside expert—or the scarce local expert—is so busy 'operating' that he finds no time to train his successor, until it is too late. Thus, it is of great importance that specific training arrangements for all types of personnel be made an integral part of your plan. And do not forget the training of the teachers or monitors on the receiving end, upon whom depends the ultimate effectiveness of the whole effort. Skimping here is poor economy.

Time-table and costs

It is clear from what has been said that making a good plan and adequate preparations before starting will require a good bit of time. But it is time well spent. It is simply not possible, if you want to obtain good results, to decide one month to use a new medium to attack a serious educational problem and then the following month to have the programme working. It is likely to require at least a full year to make your plan and preparations. First impressions can be crucial, and you will want to be sure that your new programme's début deserves and makes a good impression. Allow time if possible for some rehearsals and pre-testing on a small scale, to give your teachers practice and to iron out various kinks. If your plan calls for attacking on a fairly wide front—several parts of the curriculum at several grade levels for example—it may be wise to begin with only one or two subjects and grades until you have gained experience and then broaden the coverage. Such concentration will improve the quality, effectiveness, and economics of your project. As we have emphasized throughout, do not spread your effort too thin; or it will be educationally ineffective and economically unjustifiable.

What all this comes down to is that a serious new-media project should be planned within an initial time frame of at least three to five years, with adequate minimum resources assured for this trial period. New projects that rush into action too fast—or from which results are expected too soon—seem to lose time in the end. And 'shoe-string' projects breed constant anxieties, divert too much energy to sheer survival, and too often fail in the end. Our strong advice, therefore, is to allow plenty of time to prepare well before getting into action, and to be sure, if you can, of enough basic resources to see the project through its first few years, for it will probably take that long to make a good showing.

Most of the components of a new-media system cost money and manpower, often more than is anticipated. We would advise you to look these costs straight in the eye, to be realistic and not to delude yourself. We suggest that you make an orderly bill of requirements—stated in terms of physical space and equipment, materials, manpower and money, with a time-table showing when each will be needed. You may be able to share some of these costs with others, at least during the initial period. A broadcast station may be willing to provide some 'free time' or special rates; local governments or private groups may be able to defray some expenses on the receiving end; international or bilateral-assistance agencies may be willing to provide various important kinds of help—for a time. But regardless of who pays for them, they are real costs, and it is well that you are acquainted with all of them, for the time will come when some or all of them will have to be borne entirely from within your own budget.

The chances are that when you cost out your first draft plan it will exceed the resources in sight. You will then have to trim in places and to mobilize more resources. Your best asset for attracting resources is a well-thought-through plan.

Most plans can stand some trimming without resulting in serious damage, so long as the essentials remain. But if you find yourself forced to cut into the essentials, then you will be well advised to reconsider your whole approach. Perhaps you should consider a more manageable problem to start with, or else develop a new strategy for gaining resources, or as a last resort wait for a more propitious time. There is little point in putting valuable energies and resources into a project that stands little chance of success.

We hope, however, that your idea will be attractive enough, your problem important enough, and your plan of attack convincing enough, so that the need for adequate resources over an adequate period will be well recognized.

A contingency plan for success

Remember always that the system you design should be one which fits your long-run economic position. Everyone involved should understand that during the development period—the first four or five years—your costs per student will run abnormally high because a good many starting costs must be incurred that will not have to be repeated later. The probabilities are good that others will help you defray these high initial costs. But the critical question to keep your eye on right from the start, is what unit costs you will be able to afford once your project gets beyond the development stage and you are on your own. Are you likely to be able by then to get your costs down to a manageable level? Your answer, of course, can only be a rough estimate to begin with, but it had better be a 'hard-headed' one.

The other critical question, right from the start, is what you will do if your initial project succeeds. Your answer, no doubt, is that you will want to expand it to more 'clients' and also to attack further urgent problems with the help of the new media. But what might this require? It may require, for example, a much larger field force, many more teachers or monitors and field advisers, a larger programming staff, and more equipment.

We do not suggest that you be frightened by the idea of success, but rather that you plan for success—that you have in mind at least a tentative plan of where this project could lead if it achieved your fondest hopes. By reflecting on this question while you are designing your initial project, you might be led to take a somewhat different path which offers greater opportunity for final expansion. One thing is quite certain, that the basic requirements and cost structure of greatly expanded use of the new media some time in the future will differ markedly from those of an initial, limited project. And some types of projects are readily expandable, whereas others are not.

A final word

We have tried in this final chapter to suggest how the lessons learned from our case studies might be put to practical use by educational planners and leaders in the future. We have stressed, on the one hand, the great potential of the new media for solving important educational problems, and, on the other hand, the practical problems involved in putting them to work efficiently and effectively. We have canvassed the many factors that should be taken into account in a realistic plan for such a system. We hope, however, that we have not made it all sound impossibly difficult, for in fact we do not believe it is. Those who went before you have passed on some very useful lessons which should ease your problems somewhat. Nor do we want to leave the impression that your plan should be perfect before you begin; it cannot be. There are bound to be various shortcomings in any plan, uncertainties that you must face and risks you must take. While we urge that you take time to plan and prepare well, we realize that you may have to 'strike while the iron is hot'. As a good administrator or planner you are accustomed to making practical compromises between the ideal and the imperfect, and you have no doubt reminded yourself many times that the perfect is the enemy of the good. We share this view. And we trust that this memorandum provides at least a useful check-list of the pitfalls with suggestions as to how to avoid them.

We have tried to put into this memorandum, therefore, not a counsel of perfection, but rather one of caution and hope. The preceding pages should give any educational administrator or planner a great deal of encouragement, based on what has been done and is being done in many countries of the world. Whereas the new media, as we have said, are not miracle drugs for educational systems, they are tools of great potential power for teachers and administrators. They offer an uncommon opportunity, if used efficiently and appropriately, to help education go further, do more, and do it better.

3.2. Analysing Your Audience: Who is Listening?

from: Richard C. Burke, The Use of
Radio in Adult Literacy
Education, loc. cit., pp. 29-33

CHAPTER TWO

Analysing your audience: who is listening?

You already know, from the experiences you have had in working with non-literates, something about their basic needs, their attitudes, the ways in which they succeed in learning and the ways in which they fail. One of the difficulties with radio programming on a large scale is that broadcasters tend to make assumptions about the likes and dislikes, the learning capacities, the level of knowledge, and many other features of the non-literate listeners. Frequently, these assumptions are based on inadequate evidence and, even more frequently, the available information is out of date.

The field worker can play a significant and important role in analysing the characteristics of the audience, especially in the early stages of programme development. You are confronting the reality of the non-literate learner at individual and small-group level, and your observations and impressions will be exceptionally valuable in the areas described in the following sections. This is something the field worker can do for those engaged in the production of radio broadcasts. However, this information is extremely useful for his own work as well.

Basic needs

In practically every society you could establish a list of basic needs that are common to all men everywhere. Among other needs would be those for food, clothing, housing, health and welfare services, means of community organization, religious needs, recreational needs, transport and communication, and above all, the need to become an active subject and not simply an object in the on-going processes of social development.

As a field worker in a literacy programme using radio as the primary means of mass communication, you can clarify the basic needs of the audience you are working with, so that literacy materials can be developed which relate to the specific and most urgent needs of the learners. For people to participate actively and fully in their own learning they must know the value of their own dignity; they must possess a certain minimum knowledge about their rights and obligations; they must receive a minimum training in order to function efficiently in their work; and they must progress intellectually beyond the level of strictly biological needs. For instance, if people are suffering from malnutrition as a result of uninformed or mistaken dietary practices, some part of the learning materials can be prepared which will relate directly to basic themes in health and nutrition.

If the learners are primarily engaged in agriculture, you must evaluate their specific needs in order to know which words, phrases and sentences would be most appropriate to motivate people to acquire initial reading and writing skills.

Level of vocabulary and level of concept understanding

If you have some experience of working with non-literate learners, you will have a fairly good idea of the ways in which they express themselves with words, gestures and bodily attitudes. They have established patterns in constructing their thoughts, and ways in which they acquire new information. As you will have observed, there is considerable difference between spoken and written language; non-literate people have been completely dependent on spoken language which has its own patterns and conventions of use and, in their attempts to become literate, they must learn to adapt to the rules, patterns and conventions of the written language. This aspect of audience analysis is particularly challenging because language is constantly changing; new words come into the language, old words take on different meanings and, frequently, the process of communication breaks down as a result of a mis-match in language and meaning between the producer of the programme and the listener.

Another, and more obvious, reason for lack of communication between producer and listener is given by Ignacy Waniewicz in his book *Broadcasting for adult education:*

> In many countries and regions, problems of language may considerably complicate matters. Many areas are inhabited by ethnically heterogeneous populations, speaking in different languages and dialects. It sometimes happens that, because of tribal rivalries, people speaking a language which is not the main language in a given area are not permitted to use it. In many cases vehicular languages exist which are understood by different ethnic groups. One should be aware that

differences in dialects may cause considerable misunderstanding. As much care as possible should be taken to make the audience feel at ease in following the broadcasts. It may be necessary to broadcast the same topic in several language versions.

As a field worker in a limited geographic area, you will probably be working with only one language group, so the problem of multiple languages does not immediately affect your work; however, it is important as a matter of programming policy to the people in the project who are going to have to allot time, personnel and resources to all of the various language groups.

Therefore, one function of the field worker who is using radio as an integral part of a literacy project is to be on the lookout for instances where the radio broadcaster has either over-estimated or under-estimated the learning capacity of the audience. From time to time you should write to a regional or central office, which is concerned with the preparation of radio broadcasts, informing them that the language used in the broadcast programmes is appropriate or inappropriate, difficult, obscure, not specific enough, at too low a level, or whatever your analysis of language patterns shows.

Your input in this area is extremely valuable in structuring effective broadcasts, and you should try to provide specific information very early in the development of the instruction, so that the producers of the radio programmes can be reasonably certain that they will be reaching audiences of non-literate learners in a language that is clear, comprehensible and interesting to the listeners. Such input or feedback does not have to be given only when asked. Even when producers do not ask for such information, they find it extremely difficult to neglect what is being said even in one solitary letter.

The same suggestion can be made with regard to the levels of concept understanding. Health, for instance, is more than a series of facts about diet, child care, first aid and so on. It is a way of conducting your life. It is a concept which must be learned through many different levels, starting with appropriate vocabulary to express rudimentary ideas and continuing on up to rather sophisticated notions about human behaviour. The broadcast programmers must know how the non-literate listeners acquire certain concepts and your observations in this sphere of learning can be very helpful. Do the people you are working with learn best by many varied examples? Do they require detailed explanation of very simple materials before proceeding to the more difficult, or do they grasp principles quickly?

It is of the utmost importance that you observe carefully how the non-literate people you are working with respond to various kinds of concept learning. On the basis of these observations, you should be able to make valuable recommendations to the people who are producing the programmes that will enable them to achieve desired learning objectives more efficiently, with less wasted effort and in a shorter period of time.

Attitudes

A very important factor in any programme of instruction for non-literates is how the learners feel—about themselves as learners, their teachers, the materials used and the goals they are working toward. For now, let us limit our consideration to how the learners feel about learning from radio. Much of this feeling will be determined by the nature of their previous experience as radio listeners. If they are listening to radio for the first time as participants in a structured learning programme, you might have to explain, without going into excessive detail, about sound-wave transmission characteristics, how radio is able to carry the human voice, music and sound effects over considerable distances. The learners must understand, too, that the radio professors, or speakers, although not physically present, are still concerned about contributing to the learning experiences of the students. Sometimes inexperienced listeners do not completely trust radio as a means of conveying information and education. It is not tangible or visible and, to people who have always relied to a great extent on non-verbal patterns of communication, there are no gestures, facial expressions or bodily postures by which they can judge the credibility or sincerity of the speaker.

You must try to convince the listeners that radio broadcasting as an integral part of a structured educational programme is a legitimate and positive influence. You may have to spend a great deal of time in establishing a feeling of trust and confidence in radio broadcasting but, without it, it is unlikely that radio broadcasting will ever realize its full potential as a learning instrument.

In other situations, you may be more concerned with people who are already familiar with radio as a means of information and entertainment. In dealing with these listeners the problem of acceptance or credibility differs slightly. They may have established radio as an entertainment device, used to bring music or sports events into the home, but they have rarely used it as an educational device. You might have to convince them that radio is a versatile medium, and that there is room in the broadcast day for information and education as well as entertainment.

In other words, the listener who participates in a programme of structured learning in literacy must perceive radio as a device which can be taken seriously. Although it might have its primary identity as a pleasant means of passing leisure time, it can also be used to accomplish other purposes.

Programme preferences and listening habits

When you have started to work with a particular group of learners, you will discover that they soon develop very pronounced preferences for programme formats, styles of presentation and methods of information delivery. They may become easily absorbed in the dramatic format, they may become emotionally involved with some characters and not others, or they may miss important points by concentrating too hard on incidental information. It is important for the planners to know early in the development of the literacy project which types of programme are likely to be well received and which are not.

Another important aspect of programme preference is the pattern of work and leisure-time habits predominant among certain groups of listeners. It is important to the broadcaster to know, for instance, what time men and women start their daily work, what times they return to their homes, how they use their leisure time on weekends and holidays. Many excellent programmes have gone unheard in many countries because of a misunderstanding regarding the schedules of the intended audiences. For example, if you are interested in reaching all members of a family, your broadcast times are really quite limited. You can expect to reach all members of a family only very early in the morning or in the early evening hours.

In summary, one of your principal functions as a field worker in a radio-based literacy project is to provide constant, on-going feedback and evaluation to the programme producers throughout the length of the project. What exactly is involved in contributing this feedback will be discussed later in the book, but for now let us note that it is especially important to provide this kind of information early in the project, so that productive patterns of programming can be established quickly and non-productive patterns can be eliminated or substantially reduced.

3.3. Programme Planning: Clarifying Objectives

from: Richard C. Burke, The Use of
Radio in Adult Literacy
Education, loc. cit.,
pp. 34-40

CHAPTER THREE

Programme planning: clarifying objectives

It is difficult to write in general terms about planning radio programmes for the teaching of literacy, because the needs of the audience and the objectives of the project will vary considerably from country to country. Each literacy project and each series of radio programmes will have its own distinct characteristics which make it different from other radio-based literacy projects.

There are, however, some general observations about radio programming that you might find useful in your work with non-literate learners. In the next three chapters I will try to show that the field worker is a very important collaborator in the planning and production of the radio programmes. This does not necessarily mean that you will participate in the actual writing and production of every programme. It does mean, however, that your ideas, observations and comments about the programmes are important to the people who produce them and you may occasionally take an active part in their production. Therefore, you as a collaborator should know something about the elements of radio planning and production.

Usually, in any literacy project using radio, the programmes are developed and produced by a planning team which includes a content or curriculum specialist, a specialist in pedagogy or teaching methods, and experts in radio programming and production. The planning team will start out by clarifying the objectives of the project in fairly general terms. We tend to assume, for example, that the objective of any national literacy project is to make everyone in the country literate. Unfortunately, human and financial resources in any country are limited and such a comprehensive goal as 'making everyone literate' is often unrealistic. It may be necessary to limit a project to only one geographic area of the country and expand the services as resources permit. Alternatively, programme planners might aim at a certain age group and try to reach other non-literates at a later time. I am not suggesting here that limitations must be placed on literacy projects as a matter of policy. I am, however, suggesting that the objectives of the project must be clear and realistic in order that they can be achieved.

Once the scope of the project has been decided, the planning team must further refine and clarify the learning objectives. They must decide how literacy is to be integrated into a programme of basic adult education, and how reading and writing skills can best be related to the development of skills and attitudes in health, nutrition, agricultural production and other areas of immediate and practical interest to the non-literate learner. Also, they must decide upon a realistic division of labour between the radio programmes and the printed matter that will be distributed to learner groups.

Acción Cultural Popular (ACPO) in Colombia, for example, uses an approach to the teaching of literacy which they describe as fundamental, integral education. This organization, also known throughout the world as Radio Sutatenza, is a private institution devoted to the non-formal education of rural families in Colombia. For more than twenty-seven years they have been providing basic education, motivation and culture to their rural audience through radio, newspapers, paper-bound textbooks, records and extension courses.

ACPO has synthesized man's biological and social needs into five basic concepts: health and nutrition; mathematics; spirituality; economy and work; and literacy. The educational programme of this institution is 'fundamental' in the sense that it is not technical education, nor is it traditional academic education. It is, rather, an education in fundamental notions which serve as the base for man to assume his role as promoter of development—conscientiously, freely and responsibly. It is referred to as integral because the individual must conduct himself as an integral member of his society, by knowing and observing his family, religious, political and community obligations. Finally, for ACPO, education in its broadest sense must allow man to realize his capacities and potentials. It must be a vital process that operates in all the activities of human life. It does not terminate with the obtaining of a title or degree, nor is it limited to certain ages such as children and teenagers. Education in this context is continuing, or lifelong, occurring as a means of support and reinforcement for the person who continues to progress and develop as a human being.

In this context of fundamental, integral education, literacy is approached as a means of two-way communication. By learning to read and write, man can receive the ideas contained in books, magazines and other written publications, but, more important, he learns to communicate his thoughts in the most effective way possible and to enter into a more profound interaction with other human beings.

Although each of the five major themes is developed into its own paper-bound textbook, and each theme is given its own allotment of time in the programming of the radio courses, the themes are integrated into a single programmatic approach, each theme complementing the others, each mutually related.

Many other institutions treat literacy as an important and integral part of a fundamental education, and in each case the teaching methodology would be slightly different. The real purpose of this example from ACPO is to show you why it is important that the project be carefully and precisely defined with regard to its general objectives. It must be clear to everyone who is going to be working with the project that literacy will be approached as a part of a fundamental education which is oriented toward the immediate solution of practical problems. If this objective is not clearly defined, much time and human energy will be wasted or seriously mis-directed.

Specific objectives

Now that the general direction of the project has been established, the next stage of planning is to select some specific learning objectives that you hope to accomplish. At this point the planning team should be asking questions like these: 'What level of literacy do we think we can reasonably achieve in six months, a year, two years?'; 'What are some of the specific things in nutrition, agriculture, economy and work that these listeners in this project should know?'; 'What is the most productive sequence of learning experiences?'; 'In addition to acquiring knowledge, and forming attitudes, what should these learners be able to do as a result of their increased learning?'

Perhaps now it would be helpful to illustrate what an actual series of radio programmes might look like in this early planning stage. Let us assume that this literacy project is starting out at the beginners level. We can also assume that these programmes for beginners will be broadcast three times a week, each programme lasting thirty minutes. This schedule is purely arbitrary, of course, since one could just as easily be thinking about one programme of one hour every day. In general, one would start out by introducing some basic sounds, basic symbols, words and word groups, simple phrases, simple sentences and, of course, a lot of practical exercises in reading and writing. In addition to beginning literacy, there will be some information in each programme about basic arithmetic, nutrition, agriculture, or a combination of any of these.

To clarify what I am describing here, let us approach this stage of programme planning in the manner of the team of the content specialist, pedagogy specialist and expert in programming and production. Putting their planning thoughts down on paper might result in something like this:

First week:

First programme:	A general orientation for the new learner. Learners must be told what to expect from the radio programmes; why it is important that they learn to read and write. Clarifying schedule of programmes, what materials will be needed. Literacy is related to another important theme: that learning of any kind enhances human dignity.
Second programme:	The student is introduced to the concept that his language has certain sounds, combinations or families of sounds, and visual symbols with which he can represent these sounds. The student must grasp the 'idea of literacy' in order to proceed with specific learning techniques.
Third programme:	The student is introduced to one or two basic sounds and one or two basic words which employ those sounds. If, for example, you are introducing the open 'a' vowel sound in Spanish, you would probably use words like *mama* and *ama* as examples. Sentences with the word *mama* are used to introduce one or two basic ideas in family development: 'The mother (*mama*) loves (*ama*) her husband and children.' In Hindi or Kiswahili the sounds would, of course, be different and you would naturally use different kinds of sentences.

Second week:

First programme:	The student must understand that not only can he recognize and interpret the written symbols he has been studying, but, with patience and practice, he will be able to make lines, circles and the other graphic representations which will eventually enable him to communicate his ideas to others. Guidelines and specific instructions for making the correct letters or symbols, e.g. after class the student will practise the straight line and the slanted line, making thirty of each.

Second programme: The student learns one or two more basic sounds and their symbols, and a few more basic words that include those sounds. Repetition and reinforcement of material learned in the previous week. One of the basic words introduced in this lesson might be the word 'milk'. From the word 'milk' one can move to the concept of 'milk' as a valuable part of the diet, especially for children. Several sentences using the word 'milk' are introduced.

Third programme: More work on sound combinations. Same sound in different positions within certain words. Learners are urged to think of their own examples and, with the help of the field worker or auxiliary, to send in some examples to be read on next week's programmes. Review of what has been learned in these first two weeks. Preview of what will be taken up in the next two weeks.

The same kind of treatment or outline should be prepared for the entire series of programmes before any script writing or production takes place. A great deal of work goes into this stage of planning, but it is well worth the effort in the long run. It enables you to see, with reasonable accuracy, whether or not you are actually doing what you intended to do. It shows where certain themes are being dealt with, with what emphasis, and it may also show that certain themes are not being dealt with satisfactorily. It should clarify problems of sequence among programmes and, if done in sufficient detail, it should clarify the sequence of learning experiences within each individual programme. In each programme, key sentences and key words must be identified and emphasized.

If your literacy project is at a more advanced level, these same techniques could be applied when planning programmes. When using radio for more advanced literacy instruction, the problem, as you already know, is that the newly formed reader needs continuous stimulation and motivation to improve his reading and writing skills. He must understand why it is to his advantage to keep learning, and he needs materials that will constantly challenge and interest him. Obviously, much of this challenge will have to be met by supplying the learners with adequate reading material, and we will consider how this can be done in a later chapter. For now let us look at the contribution that radio can make to the learner who is trying to maintain and improve his newly acquired skills in literacy. A few programme outlines or treatments at the more advanced level might look something like this:

First week:

First programme: The student is reminded that literacy is a means of acquiring practical knowledge, the experiences of other people, useful techniques, as well as his cultural heritage. Through reading and writing a person will be able to share his thoughts, experiences and problems with others. He can communicate *his* ideas about the raising of cattle, caring for crops, and improving his family's nutrition. A person who reads and writes has more confidence in his own abilities.

Second programme: Review of some fundamental principles of literacy that have already been acquired. Sounds and symbols, letters of the alphabet, the meaning of vowels and consonants, forming new words with familiar sound relatives. Dividing words into syllables.

Third programme: General principles of correct spelling. Why it is important to spell correctly. General principles of correct pronunciation. Why it is important to pronounce words correctly. Use of the dictionary; how to look up words; what the dictionary tells us and what the dictionary does not tell us.

Second week:

First programme: Writing good sentences. The different types of sentences according to intended purpose. Suggestions for greater comprehension in reading. Relating literacy skills to other needed instruction—for example, composing a letter to an agency asking for some specific advice on an agricultural problem that has been encountered.

Second programme: Introduction to gender, number, parts of speech, and how this information will help the learner to communicate more effectively. Emphasis on the relationship between human communication and a higher level of social development in the community.

Third programme: Ways to increase vocabulary—practical exercises designed to give the new learner specific suggestions for increasing his communication skills.

As you can see, whether the programmes are to be used at the beginners level or at a more advanced level of literacy instruction, the initial planning procedures are essentially the same. The general objectives of the programmes are determined, the content is chosen and the sequence of learning experiences is established. The planning team then amplifies these treatments by setting very specific objectives for each individual programme, choosing appropriate formats and deciding upon the production techniques to be used. Before moving to the next stage in the development of the radio programmes, perhaps we should consider at this point whether it would be wise to produce original programming or make use of existing material.

If the literacy project in your country is the first attempt to use radio, it will probably be necessary to produce original programming. If, however, there have been projects in other regions of the country where radio was used as an integral part of the project, some or even all of this material might be suitable for use in another project, provided, of course, that the language, the learning goals and the audience characteristics are similar.

The advantage of using existing material is that it saves a great deal of time and money. Programmes may already exist on recording tape or transcriptions, and they could be scheduled on a regular basis as part of the new project. In many cases, you would benefit from the research and evaluation that has already been done with regard to programme effectiveness.

The disadvantage of using existing material is that it may have been designed with a very specific audience in mind, and it might be unsuitable for listeners you intend to reach. You may feel that the approach used is too limited in scope and that the programmes do not form the nucleus of an integrated approach to fundamental adult education. Furthermore, they may not have been carefully evaluated and there could be serious doubt with regard to their effectiveness as learning devices.

Some organizations have resolved this question by adapting or modifying material that was useful to them and refusing material which was completely unsuitable. This position seems reasonable in that it offers you potential savings in time and money, yet guarantees identity and flexibility in developing your own programmes.

In the following chapter, we will deal with the next stage of programme planning, which is selecting an appropriate style or format to guarantee effective communication and learning.

3.4. Conclusions and Recommendations

from: E.G. McAnany/J. Mayo,
Communication Media in Education
for Low-Income Countries:
Implications for Planning.
UNESCO/IIEP 1980, pp. 69-72

V. Conclusions and recommendations

This section will briefly refer to highlights and not go into detail. The references given throughout the text provide a good basis for planners further to inform themselves about a series of important planning issues.

Conclusions

1. The mass media can be used to promote a variety of educational goals in different contexts of low-income countries.

2. These goals include:
   - (a) Improvement of instructional quality and learning;
   - (b) Extension of learning opportunities to previously unserved audiences;
   - (c) Mobilization of large masses of people in study campaigns;
   - (d) Improving health, agricultural and nutrition practices through improved information and education;
   - (e) Improving organization and administration through better one-way and two-way communication;.
   - (f) Helping to increase people's participation in their own education and development.

3. Constraints of different contexts mean the the *potential* of different communication media cannot always be realized and that planners need to weigh carefully these constraints against potential benefits before projects are undertaken. Constraints include both internal and external, technical and political limitations of the

systems. Several constraints are also closely related to the technology itself and need special consideration in deciding whether to adopt it or not. For example, the tendency towards centralization in many communication-media projects makes greater participation difficult and can only be overcome with careful planning in the use of the particular technology chosen. Also, the ability to reach large numbers of people through a mass medium like radio, for example, needs to be co-ordinated with material and political support for change in rural areas to avoid simply using the technology as an information channel and providing the government with a form of propaganda.

4. There are a variety of media and combinations of technology and human organization that can be adopted to serve different purposes in a variety of national contexts. Planners are needed who understand both the potential and limitations of communication media to plan, implement and evaluate projects that employ such resources best.

Recommendations

1. Planners need carefully to articulate shorter- and longer-term goals in using communication media for education, especially for out-of-school porgrammes, where the goals are not so much learning but the application of that learning to improve life circumstances. We know that in some cases learning, motivation and even behaviour change can take place through the use of mass media, but frequently longer-term goals like improvement of agricultural production, better employment opportunities or real educational reform do not necessarily follow such changes. Planners need to understand that the use of media, if carefully executed, can contribute to a momentum for significant change but is not a direct cause of this change. In the larger mass communications systems of most countries, technology helps to reinforce values that are already deeply embedded in the society; so too, in education, technology tends to reinforce existing values unless explicit value changes are pursued. Planners need to have realistic expectations for communications, based on a thorough understanding of the educational problems and the experience of other projects that have employed the media.

2. Planners need carefully to consider the need for trained personnel in order to use technology effectively in education. Lack of such persons can not only lead to lowered effectiveness but may also, through import of outside experts, lead to a dependency situation in educational areas. Trained personnel are needed at various levels: planners who are acquainted with previous experiences through the research and evaluation literature that has accumulated; administrators who can deal with complex systems of software production, hardware installation and maintenance of field-agent networks; message-design personnel to translate interests and needs of audiences into an appropriate set of messages; production people to put this into artistically and technically appropriate messages; trained researchers to inprove the quality of the adaptation of the content to audience circumstances through formative evaluation; technicians to install and maintain production, distribution and reception. Of these, message design, content development and formative evaluation seem to be the areas where it is most difficult to find prepared people and yet these are areas that past experience indicates are most crucial to an effective media system.

3. Careful economic analysis is needed for the useful application of communication media to education in low-income countries. Questions not only of cost but also cost-effectiveness need to be raised *before* decisions are made to invest in such systems. Cost-benefit questions are also concerned with indirect and social costs which bear on a nation's development goals and the values on which those goals are founded (Gandy, 1975; Jamison, 1977; Jamison, Klees and Wells, 1978; Unesco, 1977; Unesco, in press).

4. Planners in countries where education is attempting to decentralize should promote some experiments in the use of smaller-scale communication media (e.g. audio and video cassettes, etc.) in order to see how these help or hinder people participating more actively in their own education.

5. Educational planners should collaborate with those who direct national communication resources so that the best use can be made of national radio and television systems, satellite reception, mail delivery, the telephone, etc., for a variety of educational and information tasks in national development. Such collaboration is essential

if large-scale projects are to achieve learning goals through communication media. Otherwise, separate communication systems for narrow educational goals within a single bureaucracy will become prohibitive in cost.

3.5. Project Memorandum for a Civics Education Campaign in Botswana

from: Lesedi La Puso. A Radio Learning
Group Campaign in Western Botswana.
Ministry of Education, Botswana
1978, pp. 128-143

APPENDIX A

Project Memorandum

TITLE OF PROJECT: Civics Education Campaign

PROJECT ORIGINATOR: Matsha Community College

FUNDS REQUIRED: P18 072

DATE OF SUBMISSION: 1st May 1978

SYNOPSIS

This memorandum seeks funds for planning, running, and evaluating an educational campaign whose central objective is to increase citizen's awareness of their rights and responsibilities, Government Services available, and ways of dealing with Government. This programme is to be run primarily through a radio learning group campaign which will be planned, run and evaluated by Matsha Community College in association with and at the direct request of the Councils and other agencies in the Ghanzi, Kgalagadi, Southern, and Kweneng Districts (the Matsha catchment area). Funds are requested for topic research, material production, group organization and training and evaluation costs.

BACKGROUND

2.1 Matsha Community College

Matsha Community College is being built at Kang village in the western part of Botswana.

It will be a multi-purpose institution, incorporating a secondary school vocational training and a non-formal education programme.

The NFE Unit of the college will serve Ghanzi and Kgalagadi District and the western part of Kweneng and Southern Districts. The NFE Unit is already operational.

A NFE Research Officer has been appointed with a brief to assist in the planning and organisation of the Unit, and to implement an initial NFE programme. Programme activities in the immediate future, will include some of the following:

a) assisting the Ghanzi RADO organise the Ghanzi Farm Settlement Project
b) support to Districts in the DDC conferences
c) assisting with in-service training of extension workers
d) supporting the Ghanzi mobile health education unit.

2.2 The Problem

In this area there ia a general lack of awareness about what government is doing, how to make use of government services, and right and responsibilities of citizens. This problem has been identified

a) by the districts as a priority NFE subject (in the District Development Plans)
b) by village leaders in problem-identification sessions at DDC Conferences.
c) by the Matsha NFE Investigator and other government officials in village-level surveys.

For example the Southern District Plan says:

> "Many of the current programmes offered by central government and district council could meet a lot of the people's needs. However, simple ignorance often inhibits people from taking advantage of what is available to them and at the same time inefficient media and the lack of co-ordination have limited the effectiveness of the central government and district council in getting messages to the people. Often innovation is needed, hot in the content of development programmes but in the methods of getting information flowing back

> and forth between the government and the people".
> (Southern District Plan, p47)

For example the Livestock Advisory Centre in Tsabong claims that many people in the Kgalagadi do not know of its existence or services. The Land Board is a new phenomenon in the Ghanzi and Kgalagadi Districts (they were established in 1976) and many people are not clear about its role or how to register and apply for land. People are often not clear about what their Councillor does and his obligations to them. New water bye-laws have been introduced but so far there has been no attempt to educate people about this new arrangement and the reasons for water fees. People need to be educated not only about their rights and opportunities (to land, water, education, government services, etc.) but also about their responsibilities as citizens (eg. tax, water fees, kgotla attendance, participation in elections, etc.)*

This type of education has been provided in the past to village leaders at the annual district conferences but very little of this information has been extended to the adult population at large. The RLG Campaign would provide a means for expanding participation.

The Campaign would also include a feed-back element involving report forms completed by the RLGs and mailed to the districts for processing. This information would be used by district officials in producing the 1980-1985 District Development Plan, by the Matsha NFE Unit in planning its own educational programme for the area, and by the Village Area Development Project (VADP). These two objectives - Civics Education and Consultation - fit well together since villagers need a basic understanding of government institutions, programmes, procedures, etc. before they can give useful comments on government plans. It is important that the educational content include information on why people are being consulted and how the information will be used by government in producing the district development plan.

A clear demand for this type of programme has been made by the districts and this is articulated in each of their district development plans. The Matsha NFE Unit has undertaken to run this educational programme working in association with the districts.

FOOTNOTE: For the last elections voter registration in the Kgalagadi District was lower than the national average. (Annual Central Statistics Abstract 1974)

2.3 The Method

The primary means chosen for this educational programme is an RLG Campaign. This is particularly appropriate for this area where physical communications are difficult. Two RLG Campaigns have been run in this area in the past - the NDP Popularization in 1973 and the TGLP Consultation in 1976. Participation in this area, on a per capita basis, has been higher than of other parts of Botswana-in both Campaigns.

NO. OF RLG LEADERS		
CAMPAIGN	KGALAGADI	GHANZI
NDP (1973)	127	37
TGLP (1976)	104	96

This will be the first time that an RLG Campaign has been used exclusively for this area. In this it represents an experiment as an area-based campaign run by agencies in the area, with a minimum of help from central agencies. It is not a pilot campaign in preparation for a national campaign. It is a regional campaign based on regional needs and planned, run, and evaluated by institutions within this region.

3. Objectives

The major objectives of this programme are:

a) to make people more aware of government institutions and services and how they can make use of them.
b) to make people more aware of how they can influence government to do something for them and how they can initiate change without government.
c) to make people more aware of their rights and responsibilities as citizens.

In addition the programme aims to provide government with feedback on people's views of government services.

4. AREA OR COMMUNITY BACKGROUND

The project is being planned for the catchment area of the Matsha Community College which covers Ghanzi and Kgalagadi Districts and the western part of the Kweneng and Southern Districts. This area represents 44% of Botswana's land mass yet includes only about 6% of Botswana's population. Of this population 22% are nomadic or semi-nomadic. The population is fairly scattered and service communications are therefore difficult.

5. DESCRIPTION OF BENEFICIARIES

The project is aimed at the general population in the catchment area, both these in the permanent settlements and the nomadic population. This group has been relatively disadvantaged in terms of educational opportunities and access to general government services. At a time when government is increasing its services to the area it is important that people understand what is available from government and the procedures for making use of government services.

At present there are many government services that are underutilization because people are not aware of them or of the means for getting them.

The goal of the project is to reach approximately 8,000 adults - 400 groups of 20 members each. Groups will be formed not only in permanent settlement but also among the Basarwa communities.

There will be a deliberate attempt to relate this programme to small cattle owners, subsistance farmers and poorer economic groups as well as large cattle owners. The former have been largely ignored by the development process.

6. ORIGIN AND ENDORSEMENT OF THE PROJECT

The project is under the authority of the Ministry of Education. Its executing agency for this task is the Matsha Community College which has full responsibility for the operational activities of the project - overall planning and co-ordination, topic research, material production, field organization, group leader training, and evaluation. In carrying out this task the Matsha Community College will work in association with and at the direct request of the Councils and other agencies in the catchment area. The District Development Committee and Council in each of the four districts have approved this project. This project has also been discussed and approved by the Rural Extension Co-ordinating Committee. The Institute of Adult Education (University College of Botswana) and the Agricultural Information Services have agreed to assist with material production.

7. RELATION TO OTHER PROJECTS

7.1 Two mass radio learning group campaigns have been run in Botswana in the past - the NDP Popularization in 1973 and the TGLP Consultation in 1976.

7.2 A pilot Sanitation RLG campaign is being planned for the Southern and Kgatleng Districts in 1979. Possible conflict in the Southern District between these two Campaigns will need to be resolved.

7.3 A functional literacy programme which includes the discussion of similar content is being run in the Kweneng District.

7.4 Re Botseng (Botswana Extension College) and Matshelo (Institute of Adult Education) are two examples of radio programmes which provide information to citizens on general topics including 'civics'.

7.5 This Civics Education Campaign relates directly to the District Consultation programme of which it is a part.

7.6 A cassette-based radio learning group programme called IKETLEETSENG is being run in the Hukuntsi cluster of villages during the period September 1978 to April 1979.

8. PLAN OF OPERATIONS

8.1 General

8.1.1 The intention will be to organise 400 radio learning groups each with up to twenty participants. Such a campaign will reach nearly half the adult population of the catchment area.

8.1.2 While the Extension Teams in each district will participate fully in the planning, running, evaluation, and follow-up aspects of the campaign, direct responsibility for carrying out the project will lie with Matsha Community College - specifically its Non- Formal Education Unit.

8.1.3 The following will be done before, during and after the campaign:-

a) Field research will be conducted on the campaign topic (May-August 1978)

b) Campaign materials will be produced

c) Radio learning groups will be formed and their leaders trained and equipped with radio and materials (January-May 1979)

d) The campaign will be run - (June-July 1979)

e) Feedback from groups will be communicated to relevant bodies and the campaign evaluated. (June-August 1979)

f) A follow-up programme will be planned and run by district agencies (August 1979)

8.2 Topic Research

8.2.1 As the first step in preparing materials for this campaign, research will be carried out to determine:

a) people's existing knowledge and use of government projects, services, and procedures;

b) those areas of government activity which are of particular concern and interest.

(A list of possible topics for the campaign can be found in Appendix II)

8.2.2 Eight university students will be hired to undertake this research during the period May to August 1978. The students will be trained in May in Gaborone and then until the end of July they will work in pairs in the three research areas under the following supervisors:

a) Ghanzi District

b) Southern Kgalagadi (2 pairs)

c) North-eastern Kgalagadi and western parts of Southern and Kweneng Districts.

North-western Kgalagadi (the Hukuntsi cluster) will not be included in this research because of other research going on in this area.

8.2.3 The student pairs will spend about two days in each village, starting in each case by explaining their work at the kgotla and then interviewing groups selected at random in different parts of the village (eg. bore-hole, clinic, store, homestead, etc.). The student researchers will use, on an alternating basis, two types of interviews:

a) an open-ended survey of concerns and problems;
b) a knowledge test on government services and procedures.

8.2.4 The student researchers will spend the first two weeks of August analysing their research data and writing up reports.

8.3 MATERIAL PRODUCTION

8.3.1 Campaign materials will include:

a) a study guide (for each group member)
b) radio programmes (two broadcasts a week over a 5-week period followed by a series of 'Answer' programmes)
c) flip chart pictures (3-5 pictures for each of the 10 programmes)
d) report forms

8.3.2 These materials will be designed in a one-week district workshop organised by the Matsha NFE Unit in October, 1978. Workshop members will include three representatives from each of the four participating districts. The Institute of Adult Education's Mass Media Tutor will assist the Matsha NFE Unit in running this workshop. Programme content will be based on information supplied by the field research and by the district representatives A special effort will be made to provide information which people can use immediately in their daily lives. This 'action' aspect of the study meetings might include:

a) registering or applying for land

b) applying for hunting licences
c) inviting government representatives to talk with group about their work
d) dealing with overcharging in village shops or local transport.

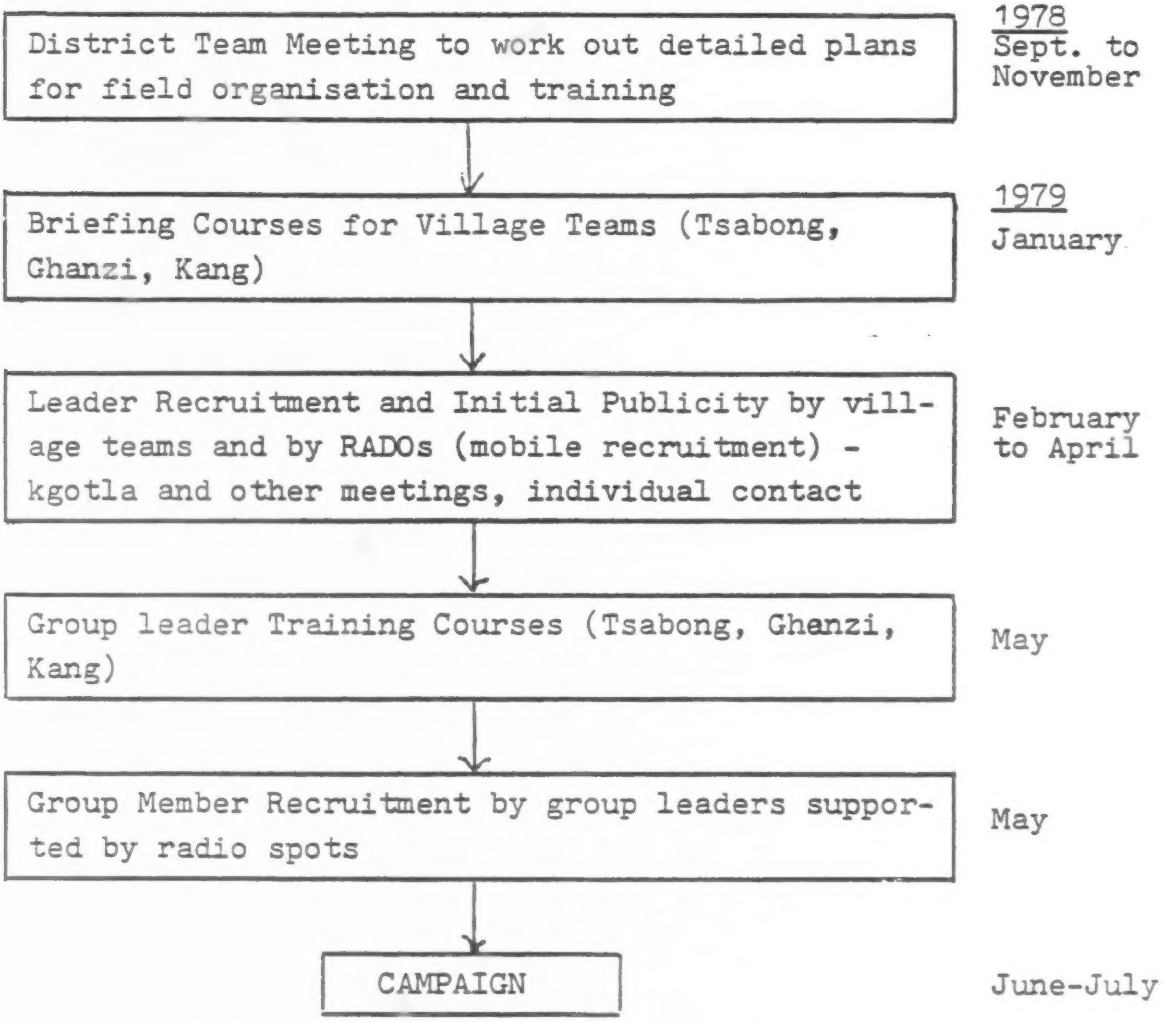
8.3.3 In November and December the materials will be finalised by Matsha NFE Unit with the assistance of the Institute of Adult Education (study guide and radio programmes) and Agricultural Information Services (flip chart pictures). In January the materials will be printed by the Government Printer and then packaged at the Boipelego Education Centre office. Materials will be delivered to the three training centres (Tsabong, Ghanzi, Kang) in April for distribution to group leaders during the training course.

8.3.4 Apart from study materials, the Matsha NFE Unit will produce materials for publicity, field worker training, and group leader training. Agricultural Information Services will help with photographs and graphics.

8.4 FIELD ORGANISATION AND TRAINING

8.4.1 Field organisation and training will be carried out by the district and village extension teams which were created for the TGLP Campaign and are still operating. As a broadly focused educational programme dealing with a range of government activities, there is a clear role for each member of the extension teams - not only in group organisation but also in helping to put across the campaign messages and in assisting with follow-up action by groups.

8.4.2 Field organisation and training will be carried out in the following sequence:



District Team Meeting to work out detailed plans for field organisation and training — 1978 Sept. to November

Briefing Courses for Village Teams (Tsabong, Ghanzi, Kang) — 1979 January

Leader Recruitment and Initial Publicity by village teams and by RADOs (mobile recruitment) - kgotla and other meetings, individual contact — February to April

Group leader Training Courses (Tsabong, Ghanzi, Kang) — May

Group Member Recruitment by group leaders supported by radio spots — May

CAMPAIGN — June-July

8.4.3 The District Teams will:

a) publicize the project at district level and keep relevant agencies (eg. Council, DDC, Land Board, etc.) informed about the campaign;
b) organise regular meetings to plan and review progress;
c) train village teams for recruitment work;
d) run the group leader training courses with the help of village team members;
e) organise the distribution of radios and other materials at the training course.

As a member of each of the District Teams the Matsha NFE Unit will co-ordinate the work of these teams. Matsha will also be responsible for providing the training design and materials for each course and briefing the training staff.

8.4.4 Village teams at present in the Matsha catchment area consist of CD staff, FWEs, and headteachers plus Veterinary Assistants. The distribution of these government staff is shown in the map given in the Appendix.

Their job will be to organise publicity and recruit leaders and members for groups in the villages. In addition they will be expected to visit groups during the Campaign and, where requested, help in explaining various of the Campaign messages. Information on group leaders from the 1977 and 1976 Campaigns will be provided to help them with this task.

8.4.5 In previous campaigns only a few groups were formed in the remote areas. For this campaign the Remote Area Development staff will organise groups in these areas. In preparing the study materials special consideration will be given to developing an approach which attempts to overcome the language and literacy problem.

8.4.6 CD staff (ACDOs and VDAs) and a few district personnel will work as small group trainers during the group leader training courses. (CD staff will also play a role in campaign evaluation). Group leader training will include both simulation work on group leadership skills and a briefing on the campaign content.

8.4.7 Care will be taken to keep Councillors and headmen fully informed about the Campaign arrangements and to involve them in explaining some of the Campaign content. Councillors will be encouraged to tour their constituencies during the Campaign.

8.4.8 In setting up radio learning groups for this campaign, a special effort will be made to establish permanent groups or at least an organisational framework (through the group leaders) for continuing education. For example this network of group leaders may be used for the distribution of the Matsha newsletter and Iketleetse (the Rural Development newsletter being produced by Agricultural Information Services). This is in line with Matsha's declared policy of setting up a network of trained 'animateurs' for the local leadership of its NFE programmes.

8.5 Feedback and Evaluation

8.5.1 Report forms will be delivered to each district capital where they will be translated, processed and analysed by university students under supervision of district staff. The data will be used in preparing the 1982-1987 district development plan. The scripts for the 'Answer' radio programmes (in response to group questions) will be produced by each district team and will be recorded in Gaborone by Matsha NFE staff.

8.5.2 Evaluation will be organised in the following way:

a) reports using a common pro-forma and including notes from daily steering committee sessions will be written by each district team after every event in the campaign lead-up period (topic research, material production workshop, village team briefing courses, RLG leader training courses)

b) the group leader registration forms and group registers will provide statistical data on campaign participants (this data will be processed and analysed by students under the supervision of Matsha staff)

c) observation and monitoring of groups during the campaign will be carried out by CD staff (who will be trained for this purpose at the group leader training course).

The final report will be produced by Matsha NFE staff with assistance from the district teams.

8.6 Follow-up

Follow-up to the Civics Education Campaign will take the following forms:

8.6.1 The DDC in each district will meet to consider the implications of feedback generated by the campaign for

- a) immediate government action
- b) the District Development Plan

8.6.2 The extension Team in each district will meet to consider

- a) ways of following up the civics education campaign with further education on this topic
- b) other ways of using the organised groups for educational purposes.

8.7 Other Campaign Methods

The primary means for conducting this educational programme is the radio learning group campaign. However, each district is planning in addition other forms of education in support of this project - eg. mobile popular theatre campaign, kgotla tour by district officials and councillors, etc.

8.8 Radios

8.8.1 RLGs will use the radios purchased for the TGLP Campaign which are stored in the DC's store in each district. Of these approximately 30% are defective and will need to be repaired by Radio Botswana's engineering department.

8.8.2 Radio reception in the catchment area is poor, particularly from 10 am to 5 pm. Plans are being made to set up a new radio transmitter at Sebele directed at this area. Meeting times will be arranged taking account of this problem.

9. PROJECT BUDGET

		PULA
9.1	Topic Research*	
	8 students x 15 weeks x 7 days/week x P5	4200
9.2	Feedback Processing	
	8 students x 15 weeks x 7 days/week x P5	4200
9.3	Material Production Workshop	
	15 participants x 7 days/week x P3.00	315
9.4	Village Extension Team Briefing Courses (3)	
	100 participants x 2 days x P2.00	400
9.5	Group Leader Training Courses (3)	
	400 participants x 3 days x P2.00	2400
9.6	Materials for RLGs	
	a) Radio batteries: 400 radios x 2 sets of six batteries at 25t	1200
	b) Torches (Ever-ready No. 64): 400 x P4.00	1600
	c) Torch batteries: 400 x 4 batteries at 25t	400
9.7	Travel and Subsistence	
	a) Air Travel to Ghanzi (from Gaborone): 4 trips at P150.00 return + 30 nights out at P4.00 per night	720
	b) Road Travel to Kgalagadi, Kweneng, Southern Districts 70 nights out at P4.00 per night	280
		15715
9.8	Contingencies (15%)	2357
		18072

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* Boipelego Education Project Funds will be used for bridging funds in paying for the topic research (May-August 1978) so as not to delay the implementation of the project.

10. RUNNING EXPENSES TO BE COVERED BY OTHER GOVERNMENT DEPARTMENT

10.1 Stationery for Campaign Materials

(out of Government Printer vote)
Study Guides 10,000
Flip chart Picture Sets 500
Report Form Sets 500 2000

10.2 Transport (CTO vote)

a) 2 strips during campaign between Council and major clinics to collect feedback forms (each clinic to collect forms within its cluster of villages during its regular mobile tour)

Ghanzi 600, Kgalagadi 600, Kweneng 600,
Southern 700 2500 x 2 = 5000 km.

b) 4 road trips by Matsha NFE staff to each of Kgalagadi, Southern and Kweneng Districts. (7000 km).

10.3 Radios

a) Radios issued to districts dueing TGLP Campaign to be used again.

b) Repair of broken radios to be done by Radio Botswana engineering department.

3.6. Questionnaire on the Use of Radio and TV in Literacy Campaigns

from: John Maddison, Radio and
Television in Literacy.
UNESCO 1971, pp. 39-43

ANNEX I

THE QUESTIONNAIRE

The questionnaire was sent to educational authorities and broadcasting organizations in many parts of the world in the summer of 1969. Replies were to be sent to the Department of Mass Communication at Unesco in Paris by 1 September 1969. Some of these replies were actually received between September and December 1969.

USE OF RADIO AND TELEVISION IN LITERACY CAMPAIGNS

QUESTIONNAIRE

The questionnaire is in two parts:

I. THE LITERACY PROJECT AND ITS BACKGROUND

II. THE RADIO AND TELEVISION ASPECTS

The questionnaire is designed to cover one single project or experiment only. Provision is made in Part I of the questionnaire for relating the project concerned to other projects and the national literacy campaign in your country.

But please supply a separate set of answers for each project you wish to cover.

Since we would like you to feel free to answer each question as fully as you consider fit, please do not insert any replies on the questionnaire itself. Replies should be provided in English, French or Spanish on separate paper, and typed on one side only.

For convenience, the present tense has largely been used in the questions that follow. Where the project has been completed, past tenses should be substituted as appropriate.

I. THE LITERACY PROJECT AND ITS BACKGROUND

A. NATURE OF THE PROJECT

1. TITLE OF PROJECT

2. DATE OF PROJECT (Years)

3. ORGANIZATION RESPONSIBLE FOR THE PROJECT NAME, ADDRESS.

4. SUMMARY OF GENERAL AIM AND SCOPE. Please describe the objectives of the project. Please attach any texts of basic directives or similar documents.

5. Does the project adopt the functional literacy approach and, if so, towards what aspects of vocational training and social and civic education is it orientated? Please attach any available syllabuses or curricular programmes etc.

B. ORGANIZATION

6. What is the body (or bodies) responsible for initiating and co-ordinating the project? (A ministry: interministerial committee: independent trust or corporation?)

7. What other bodies are involved in respect of:

   (a) research,

   (b) pre-planning,

   (c) educational content and validity,

   (d) staffing, equipment, physical resources?

8. How is co-ordination - administrative, financial and educational - between these bodies ensured?

9. How is the project related to, and co-ordinated with, the national literacy campaign in respect of:

   (a) objectives, (b) finance, (c) administration?

   Describe its place in relation to other projects within the national plan for literacy, especially those using radio and television or other audio-visual media.

II. THE RADIO AND/OR TELEVISION ASPECTS OF THE PROJECT

A. PURPOSE, PLANNING

10. At what stage(s) and for what specific purposes were radio and/or television chosen for use with the project? (As part of a promotional campaign to create a favourable climate for the project: to reach widely scattered audiences and overcome problems of distance: to train teachers and other project personnel: to accelerate and reinforce learning by the students: as teaching media in their own right: as ancillary aids to other methods.)

11. By whom was the use of radio and/or television planned? (Educational, broadcasting or other organizations.)

12. How was the use of radio and/or television planned? Describe any preliminary research carried out; planning of time-tables, equipment, costs, personnel etc.
    Please attach any available reports and papers on this aspect.

13. How is co-ordination ensured between the broadcasting, educational and literacy agencies?

14. Please give data on hours per week devoted to the literacy course as a whole, and on amounts of time within those periods devoted to radio and television broadcasts and to lesson times specifically based on such broadcasts. Give also the duration of the course in weeks, months, years. Please specify the times of day when radio and television are used - daytime or evening - during or after work hours.
    Please attach any available broadcast time-tables and programme schedules.

B. AUDIENCES

15. Describe the nature of the audiences reached by the broadcast literacy programmes in terms of their occupations, outlooks, milieux, needs and special interests. Please cover the following points: age levels: type of group - urban, industrial (light heavy industry), rural (agricultural) - men, women, mixed: illiterates or semi-literates or both: other specific groups.

What are the sizes of the audiences

(a) aimed at,

(b) actually reached?

(Give the total figures, and if possible, the breakdown figures for the categories referred to above in this question.)

C. TECHNICAL AND OTHER PROVISIONS FOR TRANSMISSION AND RECEPTION

16. What broadcasting channels are used for the project? (Open and closed circuit, frequencies, etc.)

17. What is the size of the territory and the population within the area covered by the transmissions?

18. What is the access of the intended audience to the broadcasts in terms of receivers per head of participating groups; or numbers having access to group viewing or listening facilities; or numbers available during programme times?

19. What arrangements are there at the receiving end? (Types of premises and facilities for viewing and listening and class reception etc.)

20. What arrangements are there for running and servicing equipment at the transmitting and the receiving ends?

D. STAFF PROVISIONS

21. What are the nature and size of the staff complements used in respect of:

    (a) administration,

    (b) running and servicing the equipment,

    (c) providing programme materials,

    (d) teaching functions,

    (e) research and planning centrally and in the field?

    Give details of the kinds of persons involved, especially on the teaching side.

22. Were these staffs and especially teachers, given special training in the use of broadcasts in literacy work? If so, how and by whom?

E. MATERIALS

23. Describe the types of materials used in the project:

    (a) by the teachers,

    (b) by the students,

    (c) for training teachers and instructors;

    (e.g. films, radio and television broadcasts, filmstrips, tapes, display materials, textbooks and manuals and other supporting literature and materials).

24. Which materials were provided centrally and which, if any, were produced locally or in the field?

25. By whom and how was the content and the form of these materials decided upon? Describe any steps taken to ensure the good quality of the materials as broadcasts as well as their educational suitability by joint bodies of teachers and broadcasters, by advisory councils or committees and so on.
    Please send to Unesco samples of the materials used or indicate how Unesco may procure them.

F. METHODS

26. What specific subjects and skills does the project aim to teach and in what language (the national one, a local language or lingua franca)?

27. Do radio and/or television carry the main teaching burden?

28. What subjects and teaching functions are allocated to:

    (a) radio or

    (b) television and why?

29. Please describe the form and content of broadcast programmes.

30. How are the materials used in relation to each other? (e.g. radio plus filmstrip, "Radiovision" radio plus group discussion, television plus group action, television plus team teaching, radio plus television, television plus class teaching etc.)

4. THE RURAL RADIO FORUM

4.1. Radio Forums: A Strategy for Rural Development

from: Everett M. Rogers/Juan R. Brown
with Mark A. Vermilion,
Radio for Education and Development: Case Studies. Volume II.
World Bank Staff Working Paper
No 266, May 1977, pp. 361-379

CHAPTER XI

RADIO FORUMS: A STRATEGY FOR RURAL DEVELOPMENT

Everett M. Rogers and Juan R. Braun
with Mark A. Vermilion

The purpose of this chapter is to derive a series of generalizations about the role of mass and interpersonal communication in rural development from a review of past research and program experience with radio forums. We intend that these generalizations might not only provide useful understandings about the operation of radio forum systems in developing countries, but that they also represent a step toward the broader issue of how better to utilize the mass media for development purposes, whether the medium is radio, television, or print.

1. WHAT ARE RADIO FORUMS?

A radio forum is a small listening and discussion group that meets regularly in order to receive a special radio program, which the members then discuss. On the basis of the program and discussion, they decide what types of relevant action to take. This sequence of activities is expressed in the motto of the Canadian forums: "Listen, discuss, act." Emphasis in radio forums is usually placed not only on creating knowledge of new ideas, but also on putting them into practice.

We limit our discussion in this chapter to radio forums, although we acknowledge that this topic is closely related to other types of media forums (like television forums or print forums, which are widely used in the People's Republic of China) and to other types of radio listening groups (like the radiophonics schools in Latin America and the radio listening group campaigns in Tanzania, both of which are featured in other chapters of this volume).

The basic idea of radio forums for rural development grew out of early experiences with radio listening groups in England and other European nations and was first implemented on a national scale for rural development purposes in Canada in 1941. Rural radio forums then spread to India, where the concept was first tested in a UNESCO-sponsored field experiment in the mid-1950s, and later implemented on a nationwide basis. Since then, many countries in Asia, Africa, and Latin America have been the sites of field experiments, pilot projects, and large-scale programs of radio forums for rural development. In a later section of this chapter, we shall (1) trace the historical development of radio forums in greater detail, and (2) draw some comparisons with other media forum approaches.

The basic elements of most radio forum systems are:

1. Organizers who establish the forums and help service them.
2. Written discussion guides that contain information and discussion questions that are distributed to forum leaders prior to the radio broadcast to which they pertain.
3. Regularly scheduled radio programs beamed at forum members who gather in a home or a public place to hear the broadcast and then discuss its contents.
4. Regular feedback reports (a) of decisions by the forum members, and (b) of questions of clarification to the broadcast programmers.

The basic underlying assumption of all media forum systems is that multi-channel communication is more effective than single-channel communication. When more than one channel act in concert to convey messages about a common theme to the same audience, a kind of synergistic advantage is usually achieved. The communication effects attained by two or more channels together are greater than the effects of any single channel alone. This multi-media advantage is greater when the channels involved are maximally different from each other in certain respects, as when one is a mass medium and one is interpersonal.

We define mass media as all those means of transmitting messages that involve a means, such as newspapers, magazines, film, radio, television, etc., which enable a source of one (or several individuals) to reach an audience of many. Interpersonal channels involve a face-to-face message transfer between two or more individuals, who may be family members, neighbors and friends, and others.

Table 1 summarizes the main characteristics of mass media and of interpersonal communication channels, and of the two in combination (as in radio forums). In short, mass media alone can reach a larger audience at the price of a lesser message impact, while interpersonal communication provides a greater message impact at the price of a smaller audience. This inverse set of relationships lies at the heart of the particular advantage of radio forums (Beltran, 1969).

1.1 Advantages of Radio

In terms of mass media, radio is the main channel used in forum programs in most countries, but printed material may also be used in forum systems, as in China. Radio forums have several advantages over other types of media forums. For example, illiterate people can understand the message transmitted via radio. Also, radio signals can be received despite geographical isolation or barriers such as mountains

TABLE 1

Main Characteristics of Mass Media, Interpersonal Communication and the Two Channels in Combination

	Characteristics	Mass Media Channels	Interpersonal Channels	Mass Media Combined with Interpersonal Communications (as in Radio Forums)
1.	Direction	One-way	Two-way	Two-way
2.	Time to reach a large audience	Rapid	Slow	Rapid
3.	Accurancy within a large audience	High	Low	High
4.	Ability to overcome selective exposure and selective perception	Low	High	High
5.	Feedback	Little	Much	Much
6.	Ability to answer local needs of the audience	Low	High	High
7.	Most likely main effects	Increased Knowledge	Attitude Change	Increased Knowledge and Attitude Change

that impede television or surface-based mass communication (such as the print media) which require a delivery system to the local level. Only a small, cheap battery-operated radio receiver is needed in each radio forum and, in fact, most villagers in Latin America, Africa, and Asia now own radio sets. Radio has the advantages of time, cost, and localization (McAnany, 1973):

1. Time--The broadcast signal is immediately received by listeners. The widespread availability of cheap transistor sets guarantees virtual coverage of most countries, even among the poorest villagers. Radio can reach all the population at the same time.

2. Cost--The outlay for radio is much lower than for television and for most other media, both for the program producer and for the audience members receiving the program. Jamison and Klees (1973) estimate that instructional radio is about one-fifth as expensive as instructional television. On the other hand, radio requires about 33 percent more printed matter (such as discussion guides and follow-up reading booklets) to equal the combined audio and visual impact of television.

3. Localization--Radio is a relatively inexpensive medium that enables each local station to serve a relatively limited geographical area with the same language, culture, and interests.

1.2 Radio Forums and Illiteracy

It is often said that illiteracy is a barrier to development in that adult literacy is a prerequisite to effectively changing the behavior of villagers and urban poor. If this is indeed so, the rural development potential for many developing countries is very limited, at least in the next several decades, because of their high illiteracy rates and the general lack of success of most adult literacy programs. For example, in Pakistan today illiteracy rates are 90 percent of the adult population in many rural areas, and while the proportion of the appropriate age group enrolled in primary school nationwide is increasing, it was only 45 percent in 1975 (61 percent of the male children and 27 percent of females). Only about 20 percent of Pakistan's children are receiving primary education up to five years, a level generally considered necessary for attaining functional literacy. Pakistan has about 40 million illiterates, and approximately one million more are added each year. They are especially concentrated in rural villages. Pakistan's case may be a particularly bleak picture for adult illiteracy, but comparable rates are found in India, Bangladesh, Indonesia, and many African and Middle Eastern nations. Public resources are simply unavailable (1) to provide elementary schooling to all children, which thus negates the preventive approach to future illiteracy, or (2) to train most adult illiterates to read and write.

We dispute the assumption that illiteracy is a complete barrier to rural development. The broadcasting media have the potential of "leaping the illiteracy barrier" in conveying rural development messages to village audiences, as has been illustrated in several developing nations in recent years. Radio and television, when coupled with some type of organized group reception at the receiving end, and backed up with the local availability of development inputs and resources (like new seeds and fertilizers, for example), can bring about development among illiterates as well as with literates.

The listening/discussing group, if composed of at least one or more literates along with a majority of illiterates, acts to pool the knowledge and expertise of the group members in a way that closes the previously existing gap between literates and illiterates (Neurath, 1960). Tables 2 and 3 present the results of the Poona field experiment on radio forums in India (to be described in greater detail in a later section), which show:

1. When villagers were organized in forums, the impact of the radio broadcasts was much greater on the degree of knowledge gained. 1/

2. Illiterates gained slightly greater knowledge than literates when members of radio forums, but not otherwise.

The second research finding has not been widely studied elsewhere, and we cannot be sure that illiterates will consistently outgain literates; perhaps the Indian results are due to the relatively few illiterates in the typical forum (only about 16 percent of the forum members were illiterates), or to other idiosyncratic factors. But if the findings of the Poona field experiment are at all valid, they certainly indicate that illiterates as well as literates are affected by their knowledge of the content of the radio broadcasts.

1.3 Advantages of Group Listening and Discussion

What are the advantages of organizing the receivers of mass media messages in listening/discussing groups like forums?

1. Attention--They are more likely to attend to the message and focus their interest on the message content. Group pressure and the group leader's influence thus serve a control function in uniting and directing the members' attention.

TABLE 2

Individual Knowledge Gain for Villagers in Forums and for Non-Forum Villagers, With and Without Radio

Experimental Treatments	Average Knowledge Scores (on an 18-point scale) for Individual Villagers		
	Pre-Test	Post-Test	Gain
1. Forum (n=20 villages)	6.4	12.1	+5.7
2. Non-forum with radio only (n=8 villages)	5.5	7.0	+1.5
3. Non-forum with no radio (n=10 villages)	3.9	4.6	+0.7

Source: Neurath (1960, p. 136).

TABLE 3

Individual Knowledge Gain for Literates and Illiterates in Forums and Non-Forums

Experimental Treatments and Respondent Types	Average Knowledge Scores (on an 18-point scale) for Individual Villagers		
	Pre-Test	Post-Test	Gain
1. Forums			
a. Literates (n=266)	7.1	12.2	+5.1
b. Illiterates (n=43)	3.1	9.4	+6.3
2. Non-Forum			
a. Literates (n=194)	5.3	6.5	+1.2
b. Illiterates (n=60)	2.1	3.1	+1.0

Source: Neurath (1960, p. 155).

2. Media Integration--When multiple channels are utilized to carry a common message theme, they can be presented to receivers in a unified and integrated manner when the individuals are together in a listening group. Otherwise, each of the multiple channels is likely to reach a somewhat different audience, or to reach the same receivers at different times, thus losing some of the synergistic effect of the multi-media campaign.

3. Persuasion and Action--Attitude change is more likely to occur when participation and group influence are present. Group listening and discussion is more likely to lead to action than is individual reception.

4. Feedback--Group reception of the mass media facilitates the formation of feedback messages and provides a channel to convey them to the mass communicator.

2. ORIGINS OF RADIO FORUMS

The first experiences with radio listening/discussing groups were in Europe. The idea of linking radio with interpersonal channels originated in England in 1928, according to Cassirer (1959), and then spread to Norway, Switzerland, and Czechoslovakia in the early 1930s. Radio forums started in Germany around 1940. In 1929, a year after radio forums started in England, groups of American parents listened to regular radio broadcasts from station WEAO at Ohio State University.

However, it is acknowledged that even prior to 1928, experience with media forums had already begun in Soviet Russia. "Study groups" were started throughout Russia, using print media such as newspapers, which were read and then discussed in the forums. These study groups were considered by Lenin to be a key tool in the "agitation and propaganda" apparatus of the Communist Party. The use of print forums spread from Russia to China, where they were used since the early 1930s by the Communist Party to train cadres. After 1949, the techniques of using such study groups were perfected by the Chinese Communists for use with the mass public as part of political communication activities and for such development campaigns as pest erradication, family planning, and farm communalization. Hiniker (1966) estimates that perhaps 70 percent of the adult population in the People's Republic of China participated regularly in study groups in the mid-1960s.

Canada's farm radio forums began in 1940 when a special committee established by government and private educational agencies was set up to plan and put into action a system of radio forums. After a year of intense preparation, the first program was aired in January 1941 (Nicol and others, 1954). The Canadian system was the first truly nationwide network and the first to be aimed mainly at rural people. These are two reasons why the Canadian experience represents a working model for other countries, a model that was copied directly in India and in Ghana (as will be described shortly), and somewhat less directly in more than a dozen other countries. India, starting in 1954, was the first developing country to adopt radio forums as a strategy for nationwide rural development. A similar approach has been followed in the 1960s and 1970s, at least on an experimental basis, in Ghana, Nigeria, Togo, Niger, Dahomey, Malawi, the Malagasy Republic, Jordan, Pakistan, Indonesia, Japan, Costa Rica, and Brazil. UNESCO played an important role in the cross-national diffusion of radio forums from Canada to India, Ghana, and Costa Rica, and in sponsoring research on the effectiveness of forums in contributing to rural development.

By no means have all of these radio forum systems maintained their vigor over the years. The English forums died out after about a decade or two, and Canada's rural radio forums ceased in 1965 after 24 years of large-scale operation. So the Canadian forums were dying out at about the same time they were being widely copied in Latin America, Africa, and Asia. The rural forums in Canada were mainly intended to encourage farm people to solve their local community problems, to break down rural isolation, and to develop community leadership, rather than to convey technical information about agriculture and other rural development topics. So when farm isolation and community inaction were no longer felt to be serious problems in Canada, interest in radio forums dropped off. In one sense, the forum system worked itself out of its original job.

3. THE POONA EXPERIMENT ON RADIO FORUMS IN INDIA

Probably no other developing country has paid so much attention to rural radio forums as a tool for modernization as has India. The most important evaluation of the Indian forums, which took place in the former state of Bombay (now Maharashtra), is commonly known as the Poona project, because this city was the headquarters of the five Bombay districts in which the research was undertaken. An independent research organization, the Tata School of Social Sciences, conducted the field experiment with UNESCO assistance.

Forty villages were selected for the experiment; 20 of them had radio forums, 10 had raido sets for about a year before the experiment started, and the other 10 were provided with receivers for the project. Personal interviews with forum members and direct observation of the operations of the forums during the broadcasting and discussion were the main methods used to collect the data.

Previously in this chapter, in Tables 2 and 3, we presented Neurath's (1960) main findings from the Poona experiment. The greatest difference in the increase in knowledge between the forum and the radio-but-no-forum respondents is a clear indication of the superiority of organized group-listening-plus-discussion over individual unorganized reception. Also, the radio forums tended to bring into the open a good deal of knowledge that was latent in the villages. The peasants themselves provided the means to solve many of their common problems by discussing alternative ways of action to cope with the particular problem at hand.

3.1 India: After Poona's Project

The Poona project clearly indicated the superiority of the rural radio forums in India. Several factors accounted for its success:

1. The project was the center of attention of many institutions and influential officials.
2. The experimental treatments were brief, lasting only 10 weeks. This period may not have been enough time for the participants to become weary, as in non-experimental conditions, when the radio forums are expected to last for years.
3. The project had ample financial and staff support, with highly-trained personnel and financial resources that are usually scarce in developing countries.

Schramm and others (1967a and 1976b), in a thorough analysis of India's experience with radio forums, raised the important question of "whether the forum itself is a less potent tool than had been thought, or whether it is being used and supported less well than it should be".

In order to answer this basic question, he analyzed six studies done on radio forums in India after Poona. They agree overwhelmingly on the finding that radio forums are positive as a strategy for improving the livelihood of the peasants. All the six reports cite notable accomplishments of radio forums in creating (1) interest, (2) learning, and (3) action by villagers.

In summary, the information available from the Poona project and from the other studies carried out in India tends to support the concept that the radio forums are a "potent tool" -- using the words of Schramm and others (1967a) -- for rural development in India and elsewhere.

In 1959, the Indian government decided to try to introduce the forums nationwide and set a goal of at least three forums (called "radio rural forums" rather than "radio farm forums") in each community development block — one forum for each 200 square miles containing between 60 and 80 thousand persons. Results from the Poona project were summarized and applied in this national effort for radio forums.

By the end of 1959 the radio rural forums had become a national program which was incorporated a short time later in the Third Five-Year Plan. The final goal of 15,000 radio forums was set to be reached by March, 1966.

Each forum consisted of between 12 and 20 members, the majority of them men. Special care was taken to include people from different castes, although this was not always possible. In some villages, success was attained in mixing Harijans (the "untouchable" caste) with non-Harijans. Farmers made up the majority of listeners.

Although the majority of participants were elders, some young people also participated. Established conventions were usually observed, such as the young people not contradicting the views of their elders in their presence.

The chairman was usually chosen from among the elderly, and not necessarily an educated villager. He was usually the sarpanch (village leader) or the school teacher.

The secretary covenor in India's radio forum system is a very important person to the success of the forum. His duties are to set up the meeting place, check on the radio set, seats, lights, and so forth. He is also to publicize in advance the content of the broadcast and the time of the program among the villagers. He keeps records of the weekly activities, such as a list of those in attendance, the discussions, and the conclusions reached. Usually he is an educated man, capable of writing and reading well, and often he is also the secretary of the panchayat (the village council) or the gram sevak (the village-level extension worker) or the teacher of the village.

Weekly or biweekly programs 30 minutes long are broadcast by All-India Radio for the forum audience. The emphasis is on the practical aspects of rural life: health, agriculture, and home improvement topics, intended to stimulate discussion and action among the participants.

While radio is the core medium, it is supplemented by visual aids such as films, pictures, posters, charts, and a fortnightly guide for the farm forum programs. This guide included general background information, program schedules, and specific information to help convenors in guiding the discussions. In summary, while radio is the main channel, the Indian radio forums use a multi-media approach.

An important element in the Indian radio forums are the so-called "district organizers" who are a kind of regional supervisor. They develop the forums and help solve many of their practical problems.

The growth in numbers of radio forums in India has had its ups and downs. In 1965, there were about 12,000 forums enrolling a quarter of a million villagers (Schramm and others, 1967a, p. 53). However, these numbers have fallen off considerably in recent years, evidently in part because many of the members grow tired of the effort required for twice-weekly attendance, especially as the transistor radio revolution has led to each villager having his own radio set. Access to radio, once provided uniquely by the forums, is no longer a motivation for forum attendance.

3.2 Ghana Radio Forums Project

The government of Ghana established a radio forum project in 1964-65 with technical and financial assistance from the External Aid Office of Canada and from UNESCO. Eighty villages were selected, 40 experimental and 40 for control purposes. In the experimental villages, 20 had one forum per village and the other 20 had two forums per village. Each forum had an average of about 20 members.

The main objective was to determine the effectiveness of rural radio forums as a method of educating adults and stimulating village self-help efforts. Every four weeks the participants were provided with a "talkback" program on which forum members asked questions and expressed their views, thus permitting live feedback.

There were 20 half-hour broadcasts, each on a Sunday evening at 6:15 p.m., on such topics as: (1) government economic policy and programs; (2) education and cultural institutions; (3) agricultural marketing; (4) health and family living; and (5) citizenship and community self-help. The radio receivers had a fixed frequency so the villagers could not listen to any other broadcasting station except Radio Ghana.

Overall, the data provided evidence that radio forums are effective for the conditions of rural Ghana and that radio forums are superior to the use of radio alone.

Abell (1968) concluded that the project in Ghana can be considered successful when evaluated in terms of its stated purpose of transmitting information and stimulating rural people toward increased self-help activities.

3.3 Other Research on Radio Forums

A field experiment by Spector and others (1963) among Ecuadorian villagers showed that (1) radio alone was superior in providing information about poor health and nutritional innovations, (2) radio plus visual materials was superior to radio alone for the purpose of teaching skills (such as how to construct a latrine), and (3) that the multi-media approach, when combined with interpersonal discussion, was superior in achieving the continued use of the innovation and in securing the desired consequences of the innovations.

A series of field experiments in Brazil, Nigeria, and India, in which radio forums were compared with other approaches to providing information for rural development by Rogers and others (1970) and Roy and others (1969) concluded: The efficiency (defined as a ratio of effectiveness to cost) of radio forums in diffusing innovations is much greater than for either (1) literacy-reading classes or (2) community newspapers, whether cost is measured (1) for peasant-receivers or (2) for change agencies. Literacy should be viewed as a long-term developmental investment that is unlikely to pay off in increased knowledge or adoption of innovations in the short-term, such as one year. The community newspapers are essentially a single-medium approach; they do not achieve the effectiveness of a mass medium combined with interpersonal communication (as the media forum does).

A number of other studies on radio forums have been conducted in developing nations, with results generally similar to those reviewed previously in this chapter.

3.4 Radio Listening Group Campaigns in Tanzania

The experience of radio forums in Tanzania is discussed in detail elsewhere in this book by Dodds and Hall. For our purposes here, just the essential structure and philosophy behind the forums will be examined, and implications for use in other contexts will be discussed.

Tanzanian radio forums are unique in many respects from the forums of other countries. The reasons for this uniqueness are the historical/ political framework in which the forums operate, and the actual organizational structure of the forums. Tanzania, like many other former colonies struggling to develop, has had to face the problems of minimal political integration, poverty, illiteracy, and poor health in the setting of a large rural population. What distinguished Tanzania from many other developing countries are the priorities that she has set for herself, and the determined cohesive efforts she has made toward achieving her goals. Three themes predominate in Tanzania: the establishment of democracy within a single-party system, economic development within a framework of rural socialism, and the reform and expansion of the educational systems to suit the requirements of and to contribute to, Tanzania's developing society (Dodds and Hall, 1974). It is with these goals in mind that Tanzania has very consciously adopted the use of radio forums.

From the start of the radio forums in 1969, the use of this multi-media approach was seen as a way to mobilize the population to take an active role in their own political/social/economic development. Nongovernment radio forums existed as early as 1967 (Dodds and Hall, 1974, p. 10). The theme of the first campaign, "To Plan Is To Choose" stressed the choice of rural socialist development and its implications to the people. The second campaign, "The Choice Is Yours" in 1970, had as its subject the importance of political participation among the masses, and was held to create interest and involvement in the 1970 elections. Celebration of a decade of independence and a review of the nation's development was the theme of "Time For Rejoicing" (1971). This was the first national-scale campaign, and the first one on which there is detailed evaluation. The "Man is Health" campaign in 1973 dealt with national health and the "Food Is Life" campaign in 1975 dealt with food production and nutrition.

Each of these campaigns utilized a two-way flow of communication, an educational approach towards knowledge dissemination, and social mechanisms that encouraged group participation in action. In summary, one part of Tanzania's uniqueness in the use of radio forums is the cohesiveness and integration of the way in which the forums are utilized in relation to the overall priorities of the country.

The second characteristic that differentiates Tanzania's radio forums from those of most other countries is its organizational structure. Two main features of this structure are its campaign (program) approach and the lack of a permanent agency to oversee all the campaigns.

The campaign, or program, approach refers to a specific term, single subject-area radio forum. A time frame is set by the agencies planning the campaign so that there exists a definite "beginning-end" time reference for all participants to relate to. This is felt to help concentrate energies and lead to group action. The same thinking is behind choosing a single subject-area--it is thought that by concentrating on one issue intense interest will be created which can lead to mass action.

Tanzania does not have one single agency that has overall control of the organization and implementation of the radio campaigns. Instead, the campaigns involve several ministries. This lack of central control could be potentially counter-productive, but this does not seem to be the case in Tanzania. Usually one ministry will take the lead, and the campaigns to date have been for the most part smoothly organized. Coordinated efforts among agencies, the political party (TANU), and local personnel have so far made the need for a super-agency unnecessary.

The second aspect of Tanzania's uniqueness in the use of radio forums is the organizational structure, which uses the campaign approach and which attempts to avoid counter-productive bureaucracy by avoiding a permanent super-agency of radio forums.

The evaluations by Dodds and Hall (1974), by Hall (1975), and by the Planning and Research Department (1973) indicate that, on the whole, the campaigns have been successful.

1. An atmosphere has been created in which people in rural areas have been able to take control of their own health development, politics, etc.

2. Large numbers of the rural population have been given access to specific and relevant information.

3. The methods offer a realistic alternative to much-criticized "traditional" student-teacher relationships.

4. Cost per participant is low.

5. Grass-roots political structures are strengthened.

There are cautions and potential problems that must be looked at, not only in the Tanzanian case but also in most others. One is the potential danger of a centrally planned campaign that does not allow for a real flow of feedback from the people, and the possibility that the campaign may not be relevant to specific local situations. If feedback did exist, and if the central planning mechanism had the capacity to adjust, this potential pitfall could be avoided.

Another danger can be avoided by strong research preparation for a campaign. This is most important and includes the advance training of personnel at all levels. As Hall (1975) points out, existing structures such as agriculture or community development extension systems can be used, but training in new methods must still be given.

And finally, without good communication and coordination between all groups concerned in a campaign, likelihood of success will be small.

The implication of the Tanzanian case for other countries will have to be looked at in light of each particular country's historical/political context. It can be inferred from the history of radio forum campaigns in Tanzania that if a country has a strong commitment to specified national priorities, and if these priorities are perceived by the broad spectrum of the intended audience to be in their benefit and under their control, then a radio campaign promoting these priorities has a good chance of being successful, given all the other prerequisites for radio forums. In addition, evidence from the Tanzanian case suggests that a programmatic, non-instutionalized approach to organizing the forums may be advantageous over the continuous type of radio forums in achieving group action on specific development problems.

4. EMERGING GUIDELINES ON RADIO FORUMS

On the basis of the extensive experience and research into the role of radio forums in rural development in the nations of Asia, Africa, and Latin America, the following general guidelines have emerged which serve as conclusions for the present chapter.

1. Radio is the single mass media channel that most effectively reaches the widest audience of villagers at present.

2. It is possible to produce radio programming about development topics that is attention-getting and interesting to village audiences--if it is planned carefully to meet villagers' needs, if it is presented in an appropriate message format (such as in the preferred language and the traditional/folk artistic and cultural forms, etc.), and if a variety of production styles (for example, dialogue, dramatization, popular music, and narration) are utilized.

3. Radio alone as a medium of conveying development messages should be supplemented by other media such as listening guides, workbooks, simple booklets, and various audio-visual materials--a multi-media approach usually will out-perform any single channel.

4. Radio has a special advantage for maximizing audience segmentation strategies in that particular radio programming can be beamed at a special village audience in the appropriate language, at a convenient time of day for listening, using an attention-getting format, and utilizing localized message content.

5. Special abilities are required on the part of radio producers to reach rural audiences effectively, in that they must be knowledgeable about and trained to recognize villagers' information needs, appropriate vocabulary, speed of comprehension, and concept formation, as well as have subject-matter expertise (for example, agriculture, health, etc.).

6. Development communication should be viewed as a total process that includes understanding the village audience and needs, communication planning around selected strategies, message production, dissemination, reception in listening groups, and feedback, rather than just as a one-way direct communicator-to passive-receiver activity.

7. Greater communication effectiveness can be achieved when a relatively small number of high-priority campaign themes are carefully selected and implemented in an integrated and coordinated fashion.

8. The effectiveness of a development campaign through radio and supplementary media is maximized when some type of listening group or forum is organized at the receiver end of the communication process.

9. Radio forums seem to be effective with illiterate audiences as well as literates.

10. One of the important functions of forums is to provide feedback to program producers regarding the usefulness of the media messages, the style of message presentation, the utility of supplementary materials, and the logistic limitations to action (that is, adoption of the innovations featured in the messages).

11. Listening/discussing forums are important in converting the members' knowledge into action through discussion and exchanges of experience; the objective of the groups is to achieve behavior change on the part of the villagers, such as adopting agricultural innovations, building latrines, getting innoculations, using family planning methods, etc.

12. A variety of low-cost means are available for identifying, organizing, and maintaining radio forums. For example, (1) identifying existing leadership and "natural groups" in villages that can be converted to listening/discussing forums (with the provision of adequate incentives), (2) training and motivating in-place government employees like school teachers, agricultural extension workers, and family planning field workers to organize forums, and (3) using radio to urge people to form listening groups, as well as employing full or part-time organizers.

13. Forums can be organized and maintained for time periods of different duration, depending on the nature of the campaign theme being presented. For instance, a grow-more-wheat campaign might utilize listening groups for a series of four once-a-week meetings to be timed just prior to the planting seasons, while other forum systems are organized on a "permanent" basis to receive and discuss a weekly series of radio programs on a wide variety of development topics. In any event, radio

forums, once organized, will not last forever; probably a forum should be expected to disband after one or two years of operation.

14. Radio forums are more effective if each group has a leader with minimum training in how to lead group discussion and how to use the supplementary print materials properly.

15. Forums should be relatively small in size, with from 10 to 20 members, so that each individual has an opportunity for participation and so that travel to the forum meeting place is convenient.

16. The concept of forums is highly compatible with villagers' experiences and cultural preferences. However, radio reception by a small, informal group of friends was more common in the recent past than it is now, as the ownership of radio sets by individual villagers has become more widespread.

17. A campaign approach to radio listening groups may be advantageous over institutionalized radio forums (1) when everyone has individual access to the medium (of radio), (2) when segmentation of audience and content is especially appropriate.

18. Caution must be exercised that a radio forum system does not inform and motivate the village audience to undertake behavior changes that are then blocked by the unavailability of development inputs (like fertilizers, medicines, etc.), leading to widespread frustration. Possible ways to minimize this problem is to select forum campaign themes carefully so that they involve more readily available inputs, to coordinate the campaign with relevant government and private agencies that are expected to provide the inputs, and to use the forum system's feedback devices to identify input bottlenecks at an early stage.

19. Thus a radio forum system is not only a way to change the behavior of villagers, but also a means of changing government institutions in directions that better serve villagers' needs.

REFERENCE NOTE

1. The knowledge scores were computed for each respondent on the basis of his answers to six sets of related questions, each of which was scored on a three-point level of correctness. One of the typical question sets was: "What damage do rats do? Do rats carry disease? If yes, what disease? What do you do against rats? When you kill rats, what do you do with the bodies?"

4.2. Using Radio Effectively

from: Richard C. Burke,
The Use of Radio in Adult
Literacy Education, loc. cit.,
pp. 70-88

CHAPTER SIX

Using radio effectively

Until now we have been discussing the design, production and distribution of radio programmes and supplementary materials. Throughout this book I have been stressing the fact that the field worker is the vital link between the originators of the programmes and materials, and the learners who are going to use them. In this chapter we will consider how the field worker in a radio-based literacy project develops methods of communication, organizes and maintains listening groups, and trains volunteer workers to use radio effectively.

Creating awareness and interest

I mentioned in the Introduction that the programme of literacy training that you are now engaged on may be just getting under way, or it may have been a programme which has been in operation for quite some time and is generally successful in its methods. If the literacy project is already in operation, there will be groups of learners, teachers, volunteers, teaching materials, and some type of organizational or administrative structure. If the project is just getting started, you must spend considerable time in establishing an organizational framework to support the teaching of literacy. In either case, your principal concern as a field worker is with the use of radio as a means of extending the literacy project to all who desire to learn.

Let us assume that the people in charge of the radio-based literacy project have made arrangements for the use of production and broadcasting facilities. They are going to broadcast the first few programmes in basic literacy in three to four months and, if the response is favourable, they will continue to broadcast them on a long-term basis. Eventually, if there is sufficient demand for it, they will develop and produce a series of programmes at a higher level of literacy to be broadcast the following year.

But these are long-range plans. Meanwhile, what you need to do right now is to make sure that people know about this project which will be available to them very soon. Listeners have to be motivated to participate, volunteers must be identified and trained, and organizational structures have to be established in the field.

In Chapter Four we talked about formats which are designed to carry complete radio programmes as an integral part of literacy learning. I noted at the end of that chapter that there were other formats in addition to the talk, the interview, the discussion and the drama; one of which was the spot announcement. The radio spot announcement is usually produced in very short segments of fifteen, thirty or sixty seconds and, occasionally, two minutes. The purpose of the 'spot' is to deliver a specific piece of information to an audience in as short a time as possible. Spots are usually broadcast in between regular programmes, or they are given in the middle of a programme during a natural break. Sometimes the spot is designed purely for motivation—it arouses interest, it causes people to take notice, it reminds them to do something. Often it contains simply a name, an address and a sentence or two about the time and place of an event or a service to be offered. During the three or four months before the course is actually broadcast, the spot announcement can be a useful device for telling people that the literacy project will be getting under way soon:

ANNOUNCER: Beginning the first of June, this radio station is going to broadcast some programmes that we think will help many of our listeners. If you need up-to-date information on farm credit, suggestions about caring for your child's health, or if you want to improve your reading and writing skills, these programmes are for you.

What you are doing with this announcement is arousing interest. People hear it, they become aware that the programmes will be offered and you hope that they will be receptive to more information. Soon after these initial announcements have been broadcast, it is a good idea to follow them with a message that contains more specific information:

ANNOUNCER: Beginning the first of June, this station will present a new series of programmes called 'Living and learning'. We'll talk about child care, reading and writing, and improved farming practices. 'Living and learning' will be broadcast every day at 6:30 in the evening, and we'll repeat the programmes the following day at 6:30 in the morning. Remember, 'Living and learning' begins the first of June, at 6:30 in the evening, on this station.

Now you have done more than simply arouse interest. You have specified a title, announced the times of the broadcasts and repeated the major themes of the course. In later announcements, the listeners should be told how to get hold of textbook materials, where they can acquire the weekly newspaper that is published in support of the course and other details that they need to know about this new project.

In addition to stimulating potential learners, the organizers of the radio-based literacy project should be trying to recruit volunteers who will help in the formation of radio schools or listening groups. In some countries, these people are called 'monitors'. Other projects have used the term 'animators', but whatever the title their function is pretty much the same. They serve as helpers, usually with only one group of listeners, and more often than not their efforts are unpaid, hence the commonly used term 'volunteer'. They help the listening group to establish a radio school; they prepare the listeners before the broadcasts; they listen to the broadcast with them, noting objectives, possible points for discussion and difficult parts; and they supplement the learning activities by working out problems, leading discussions or answering questions after the broadcast.

These volunteers should be able to read and write reasonably well, they should have simple calculation skills, and it is helpful if they have two or three years of primary education. Whatever their backgrounds or interests, the factor they have in common is a willingness to share their knowledge with others and the sincere desire to help members of their own families, friends or neighbours to become more productive human beings.

Spot announcements can be used to motivate people to volunteer some of their time to work with listening groups. An initial announcement to encourage volunteers might sound like this:

ANNOUNCER: Beginning the first of June, this radio station will broadcast a series of programmes called 'Living and learning'. These programmes are designed for adults who want to learn to read and write, to improve their farming techniques, or to know more about child care and nutrition. Your family, your friends, your neighbours may want to form a listening group, but they need your help. Can you spare some time each day to help others learn?

Here again, you have aroused interest or stimulated curiosity. These initial messages should be followed by spot announcements with more specific information. Here is a follow-up announcement done in a dramatic format:

The scene: The kitchen of Maria Ramos. Her friend Teresa was just passing by and stopped in to chat for a few moments.

TERESA: Maria, did you hear on the radio about the new programmes 'Living and learning' that are going to start on the first of June?

MARIA: Yes, I heard the announcement a couple of times, but I write . . . I already know how to read pretty well, so I don't think . . .

TERESA: Good! Then you can help us when we start listening to the programmes. I always said that you would make a good teacher.

MARIA: Hey, wait a minute! I'm not a teacher. I don't know anything about teaching someone else to read or write.

TERESA: But you know more about it than we do and every little bit helps. Don't forget now, we start the first of June at 6:30 in the evening. See you then!

In later announcements, people who are going to volunteer their services to your project must be given more specific information about the nature of the literacy project, what roles they can play and all of the other details that they will need to know. Do not forget, too, that most of these volunteers are able to read reasonably well and, in addition to announcements by radio, you should try to reach them by means of posters, newspapers and other forms of print media.

The organization that produces these spot announcements hopes that they will be heard by a good many people who will become interested and motivated to find out more about the project. The listeners will want to know specifically what to do—how to organize themselves, where to get materials, how to keep in contact with the station or its representatives, and so forth. At this point, your activity as a field worker becomes crucial to the success of the project. People have been stimulated to learn, and they are anxious to get started. It is your job to turn this expectation into a reality by helping them to get organized, identifying and training volunteers who are willing to help, providing materials, and continually serving as the link between the programme producers and the learners. The radio spot announcements create awareness of the new programmes that are going to be offered, but the crucial step of becoming an active participant is almost always taken as the result of personal contact between a concerned field worker, and the new learners and volunteers.

From awareness to active participation

In many urban areas, there are on-going classes in literacy and fundamental education for adults. Since most people are employed during the day, these classes are usually offered in the early evening hours starting at 6:00 or 7:00 p.m. The participants come to a school, a municipal centre, a union hall or a building which is affiliated with a religious organization. My point is that in cities you are likely to find that physical facilities are available, teachers are working with adult learners, and enrolment procedures have long been established. As a literacy worker in an urban environment, you can contact people quickly, you can identify potential volunteer workers and the channels of communication from one sector to another operate with relatively high efficiency.

In most rural areas, however, there are fewer schools, they are much further apart, there is less infrastructure and administrative network, so that the problems of communication are much more severe. As a field worker in a rural setting, you probably live in a village or town which may be considered your centre or base of operation. You may have lived in this area all your life, in which case you are already familiar with municipal officials, religious leaders, school-teachers, health and agriculture officials, and with individual families in the town or village. If you are a newcomer to the area, you should make every effort to get to know as many people as you can as quickly as possible. People in the village form a communications and information network that is going to be vital to your work; you must learn early in the project how to make efficient use of this network.

You can use this communications network to identify promising people who are willing to offer their services as monitors or teachers to work with small groups of radio listeners. The people you are looking for should, of course, be literate and, perhaps even more important, they must be highly motivated to help other people with their new learning experiences.

By talking to as many people in your town or village as you can, you will soon discover that they know of several people who would make good volunteers in a radio-based literacy project. Obviously, it would be ideal if you could visit every family that lives in the surrounding areas to talk with them personally, but this is not always possible. In many rural areas it is not at all uncommon for some families to live three or four hours by horseback from the nearest main road and field workers simply do not have the time to visit each family. Therefore, you must depend on the communications network that exists in your area to extend your reach to as many people as possible. The information about your project, the fact that you are looking for volunteers, is passed from person to person and, eventually, people start coming to you to express their interest and to find out more about the project.

Preparing volunteers to work with listening groups

As soon as you have identified a few volunteers who are willing to participate, you should try to get them together to teach them how to be effective in working with adult learners in a radio-based literacy project. If you start preparing volunteers three or four weeks before the broadcasts actually begin, you will have enough time to help them to develop their self-confidence in utilizing the radio programmes and other materials. As far as the actual setting for these meetings is concerned, you can meet a group of volunteers almost anywhere, depending on the facilities that are available in your town or village; a municipal centre, a school building or, if necessary, in a private home. You need enough space to accommodate the number of people who are going to be trained and it is desirable to have some tables and chairs so they can take notes and do some of the practice exercises. A blackboard for demonstrating some of the techniques that will be used in the project is also useful.

There will most likely be volunteers who live a considerable distance from the town or village where you hold your organizational and instructional meetings. These people may not be able to attend every meeting, so you must do the best you can in adapting to their needs and problems. You will have to get out to see these people as early in the project as possible and you should try to see them as often as you can, as long as they continue to participate. Your personal contact is valuable not only as a means of preparing them in utilization but, even more important, regular visits from a field worker have a very positive effect on their morale. How these volunteers *feel* about what they are doing is just as important as learning the basic techniques of using the radio programmes and the supplementary materials.

Let us assume now that twenty or twenty-five people (the number is not really important—it could be seven or eight people) have agreed to come into your village one afternoon each week to learn how to become effective volunteer workers. In the next few pages I am going to suggest some approaches and techniques that you might find useful in working with these volunteers. Keep in mind, though, that as soon as you have had some experience in preparing others, you will develop your own principles, your own specific objectives and your own style as a teacher and group leader.

The first meeting of the volunteers: general orientation

In this first meeting you are going to establish a relationship between your personality and the personalities of the volunteers. You introduce yourself to the group, and you explain that you are a field worker with a radio-based literacy project sponsored by a ministry, a private organization, or whatever your administrative arrangement may be. You should then ask the members of your group to introduce themselves by giving their names, where they live, which groups of listeners they will be working with, and any other information they wish to provide about themselves. These introductions may seem like a polite formality, but they are really more important than that. The volunteers need to feel a sense of solidarity with you and your organization, and with each other as fellow workers in an important and worthwhile undertaking.

Ideally in this first meeting you would be able to pass out some of the supplementary materials that they are going to be using over the next months. They are probably going to discover that some of the material in the broadcasts, textbooks and newspapers is going to be new to them as well as to their listeners, and they will appreciate the opportunity to study the materials beforehand. It would also be very helpful, in this first meeting, if they could listen to one of the radio programmes that they will actually be using. If the producers are a few weeks ahead in their programme recording, it should be possible to broadcast one or two programmes at several different times throughout the week, so that field workers could schedule their meetings to take advantage of one of these pilot broadcasts. Even greater flexibility would be offered if each field worker were provided with an inexpensive audio tape recorder and a modest supply of tapes. In this way the programme could be recorded from an ordinary radio receiver onto an audio tape, thereby allowing meetings to be held at any time without having to adhere to a broadcast schedule. Now that battery-operated tape recorders are available at very low prices, it is not at all unrealistic to think about buying one of these recorders to enhance your effectiveness as a field worker.

You might conclude this first orientation session by allowing fifteen minutes for questions, comments and suggestions. You will learn a great deal about the volunteers by encouraging them to participate actively in their own orientation and they will, of course, learn a great deal from each other. If possible you might offer tea, coffee or a cold drink toward the end of the meeting and allow enough time for you to get to know as many individual volunteers as possible, and for them to get to know you—and each other. Before this first meeting is finished it might be worthwhile to stimulate their interest by presenting them with a question or problem which will be taken up in the first part of the next meeting. For instance, you could ask 'Now that we have assembled for this initial session, how do you think you see your role as a volunteer working with adult learners?', or 'What steps do you think a learner must go through in order to understand the relationship between letters or written symbols, and the sounds they represent?' You ask them to think about these questions during the coming week since you will discuss them at your next meeting.

Subsequent meetings with volunteers: learning to use radio effectively

There are many ways to conduct training meetings after the first orientation session. There is no rigid formula that has to be followed. Early in their training the volunteers must understand that adults do not learn in the same way as children. Many of the volunteers will remember the teaching techniques that they themselves encountered as primary school pupils and they will want to apply these techniques in the new learning situation with adults. But the volunteer must be reminded that the adult learner does not want to be talked down to, nor does he need to be told what to do in the authoritarian manner that is often associated with formal schooling. Adults, after all, have had more experience than schoolchildren; they have a great deal to contribute to their own learning as well as to the learning of others in the listening group. Perhaps the most important characteristic of the adult as a learner is that he participates in any learning situation because he is motivated by the idea that he is going to derive some immediate benefits from it. Young learners can be told that the things they are learning will be useful to them 'in the future' but the adult wants to apply new knowledge and skills to the solution of immediate problems and necessities.

You should explain to the volunteers fairly early in their training the approach that your organization is going to take towards literacy. If literacy is to be an integral part of a comprehensive programme of fundamental adult education, they must understand the learning objectives that have been specified, so they can help their listening groups to put the new information and concepts into practice. They should realize that to an adult learning to read and write seems like an insurmountable problem. Adults are sometimes very sensitive about the fact that they cannot read and write, and every effort must be made to protect their dignity. A good volunteer monitor must realize that being illiterate is not a sign of laziness or stupidity. It is more likely a lack of opportunity which accounts for a person not being able to read or write. This, of course, is exactly what you are now trying to provide by means of radio, materials and personnel—a second chance, an opportunity based on the principle that has been used all over the world in literacy programmes—'It's never too late to learn'.

If you raised some basic questions or problems in the first orientation meeting, you should ask for comments and discussion before the participants lose interest in these questions. In fact, this can be a weekly procedure—one week you raise the question or pose a problem, and the next week you have discussion or consideration. The particular questions or topics that you choose to discuss are really less important than the methods you use in conducting these meetings. If you lead discussions in which the volunteers are encouraged to offer their views, where no one is criticized for holding an unpopular opinion, and where respect for the rights of others is carefully and conscientiously observed, the volunteers will conduct discussions with their listening groups in much the same way.

On the other hand, if you are authoritarian, dogmatic and intolerant of the opinions of others, the volunteers will follow your example and be rigid and authoritarian with their listening groups. It is important to remember that, as a field worker, you are doing far more in these sessions than simply handing out materials and setting rules for being a good monitor. You are a model for the people you are working with, and they will take away from these sessions everything that you offer them in the way of teaching and guidance practices.

As soon as the volunteer monitors have become familiar with the general aims and methods of the project, it is a good idea to teach them some specific practices that they will be able to use when they begin working with their listening groups.

Organizing the listening group

In sparsely populated areas a listening group might consist of one or two families, and a volunteer who helps them with their learning. In more densely populated areas a group might consist of twenty to twenty-five or even more people, aided by one and sometimes two volunteer monitors. Whatever their number, the purpose of the learning group is the same: to gather together on a regular basis to listen to the broadcasts of radio programmes on literacy and fundamental education.

As has been discovered in many countries throughout the world, organizing listening groups is not always an easy task. People in rural areas work very hard; they are usually tired in the evening; they don't have much time to spare in the early morning before going to work. It is quite understandable that they might prefer to use their spare time in pure relaxation—games, sports, other enjoyable activities—rather than joining a radio listening group. People must be motivated and stimulated to learn, and they must see some rewards for becoming participants in the project.

The organizers of radio clubs in Niger discovered that when the clubs were just getting started, there was reluctance on the part of a large portion of the population. As reported in the Unesco case study of radio clubs in Niger, 'There was an attitude of distrust; people feared that their ideas would be taken down and, worst of all, recorded by a machine. They are afraid to talk; they think they will say wrong things which might cause them trouble. They are afraid to show their disapproval of the political authorities. They do not want to get mixed up with the majority because of their political opinion . . . Many participants, especially peasants, have yet to be convinced that any working hours they devote to the radio clubs is not time lost.'

In spite of this reluctance to be organized, the project leaders noted a general interest in things new, much co-operation from those up to the age of 40, a kind of rivalry between certain strata of the population, and the unreserved support of many local authorities and concerned public servants. Teachers in villages, agricultural leaders, important tribal leaders were approached by field organizers in order to enlist their aid in establishing the radio clubs.

As I mentioned earlier in the monograph, you must learn how to use the communications and information network of prominent people in villages and towns, and you must encourage the teachers and monitors who are going to work with you in the literacy project to do likewise. Encourage them to find out if local groups are already in existence and to work with these groups: groups associated with churches, groups formed for co-operative buying purposes, groups of neighbours who get together for sports and recreation on a regular basis.

Organizing listening groups takes a great deal of time and human effort, and it is very easy to underestimate just how time consuming this work can be. The following excerpt from the Unesco case study of the Radio Rural Forum in India is very instructive in this regard:

> One of the first lessons learned was the amount of lead time and personnel necessary to organize a group of forums. It had been planned to start the programme on 26 January 1956—Republic Day in India. However, the chief organizer could not be released from his duties to join the project until 31 January, and the district organizers came to the project at various times between early January and 11 February. When the chief organizer arrived, he drew up detailed guides for the organizers and for the officers who would conduct the forums, and began to tour the districts to supervise and to aid the district organizers as well as to win the co-operation of the numerous development officials who would be concerned with the project. Originally, it had been intended that the part-time organizers should set up the forums, with the district organizers supervising the task. This plan did not prove feasible, and the district organizers themselves had to visit the villages, to confer with the leaders, to explain the nature of the forums, to secure approval and help in selecting the chairman, the convener, and the approximately twenty villagers who were to belong to each group. Permission had also to be sought from appropriate authorities if the forums were to meet in the village council (*gram panchayat*) rooms or other public quarters, and if the secretary of the *panchayat* or a school-teacher were to be used as convener of a forum. Another duty of the organizer was to check on the village radio set—if a receiver was available, and if it was in working order. If not, administrative machinery had to be set in motion to secure a set or have the old one repaired. As soon as the forums were set up, there were a great number of difficulties to be overcome. In all, both the chief and the district organizers found it necessary to travel through their territory fifteen to twenty days a month. Because of the shortness of time, it was found necessary to cut back on the planned training programme. Instead of holding central classes for the district and part-time organizers, and for the forum officers, the chief organizer talked individually with the district organizers, and the district organizers talked with part-time organizers, forum chairmen, and conveners, individually or in small groups. It was not until 19 February that the necessary number of forums had been organized and supplied, and the broadcasts could begin.

Making your literacy project known, working through village leaders, training monitors to extend your work in more remote rural areas are the basic principles of organization, whether you call the listening groups 'radio rural forums' as in India, 'radio clubs' as in Niger and many other countries, or 'radio schools' as in Colombia and other countries of Latin America.

Some listening groups have taken the idea of a 'radio school' quite literally. They have tried to construct, in a home or in some public building, a listening area that resembles an actual classroom. It really is not necessary to go to a lot of trouble to re-create a classroom—in fact, it may be very unproductive. Adults usually do not want to sit at desks or on benches in neat rows like school-children. It offends their sense of dignity by making them feel like passive objects rather than active subjects in their own learning.

All that is needed to make people feel at ease in the group is some place to gather which is relatively quiet and free from interruption. In some countries, listening groups meet in the evenings in school rooms. Some groups use the facilities of churches, while others meet in union halls. In many countries listening groups meet outside in a shady place to listen to a portable radio. If the group is meeting in someone's home, it is quite appropriate for the learners to seat themselves around a large table so that everyone can hear the radio clearly and, after the broadcast, they have a place to practise their writing and class exercises.

If the first programme is going to be broadcast, let us say, on the first day of June, the volunteer ought to be meeting with the listening group once or twice a week, starting about the tenth of May. As the volunteer himself learns about the project in the orientation sessions that you have been holding, he passes this information along to the members of the listening group. He must explain to them the approach to literacy, what learning to read and write is all about, why they are going to be learning by means of radio, how the supplementary materials are going to be used, and all of the other things that the listeners will need to know to make maximum use of their new learning opportunity. In this short period of time before the actual broadcasts begin, the monitor should be creating a suitable environment for the learning that is going to take place.

One of the things that frequently worries volunteer monitors is specifically what they should be doing once the course gets under way. For the sake of convenience, the specific things that a monitor does to help the members of his group are usually divided into three phases: pre-broadcast, during the broadcast and post-broadcast activities. For now, let us concentrate on the specific pre-broadcast activities of the monitor and take up the other activities in subsequent pages.

Pre-broadcast activities

In preparing the listening group for the broadcast, the monitor must first attend to some relatively simple things such as tuning the radio receiver for best programme reception, passing out the necessary materials, papers, pencils, notebooks, etc., and in general preparing the physical learning environment. The volunteers should be told that they must try to get the group together about fifteen minutes before the broadcast actually begins. Allowing a few minutes for people to settle themselves, this provides the group with about ten minutes for actual pre-broadcast preparation. The listeners must understand right from the beginning that the pre-broadcast period is not just simply a time to wait around for the programmes to begin, nor is it a time to exchange talk about the day's activities. It is an integral part of the course and the monitor must exercise strong leadership as a motivator and stimulator.

One of the first things the monitor should do in the pre-broadcast period is ask the members of the group if they have any questions or comments from the last time they met. If the question can be answered quickly and concisely, it can be dealt with at the time. A long and difficult question with an answer requiring considerable explanation should be noted and explored further when time permits after the radio broadcast.

Probably the most useful function that the volunteer leader can render to the group is to prepare them for what they are going to hear on the radio by helping them to improve their listening and comprehension skills. To do this, of course, the monitor must know beforehand what the programme will contain. This is why it is so important for him to have a guide or outline of all the programmes to be broadcast. In helping them to improve their listening skills, the monitor must explain to the members of his group:

(a) *The purpose of the programme:* For example, is it designed to introduce the letter 'B'? Is it attempting to present practical problems requiring a knowledge of simple arithmetic? Is the purpose to relate a certain letter of the alphabet to several words that are important in developing a concept of good nutrition? Or, if it is a programme later in the series, is it given over to practical exercises on materials that have been learned previously?

(b) *The sequence of the programme:* For example, the first part of a later programme may be a review of some of the words beginning with the vowel sound 'ah'. In the second portion of the programme the professor is going to introduce the idea of constructing simple sentences—there must be at least a subject and a verb (or whatever the fundamental parts of your own language are) followed by examples of simple sentences. The last section is called 'the listener's mailbox'—the professor reads letters, verses, riddles and songs sent in by listening groups throughout the country.

(c) *Emphasis and subordination:* In any twenty or thirty minute programme some things are going to be more important than others. Learners in general, but especially inexperienced learners, cannot absorb everything that is presented to them, and they need guidance on how to distinguish between those programme elements that are essential and those that are incidental. They need to be able to distinguish between basic principles or concepts, and examples that are presented to amplify and clarify those concepts.

In your orientation sessions you have to teach the volunteers that good listening is an acquired skill. There is much more involved than simply telling someone to 'be quiet and pay attention'. A good listener has to grasp the structure of the subject matter. This is why the learner needs guidance in listening for basic principles, in connecting one segment of a programme to another, and in learning how to distinguish between segments that are very important and segments that are not really essential. The best way for the volunteer to learn these techniques for improving listening skills is to actually try them out under your supervision.

If you are working with fifteen or twenty volunteers, you could divide them into four or five groups to let them practise with each other. One volunteer assumes the role of group monitor while the others act as the learners. He conducts the pre-broadcast activities with the group for five or ten minutes, then someone else takes a turn, until finally everyone has had the opportunity to put their newly acquired skills into practice.

If the volunteer has done his work well in the ten minutes preceding the radio broadcast, the learners will be anxious to hear the programme, and they will be well prepared to get as much as possible out of it. We assume, then, that the listeners are giving their full attention to the programme as it goes along, but what does the monitor do while the programme is actually in progress?

During the broadcast

A good monitor is as actively involved during the programme as he is before and after it. He must never leave the listening group just because he knows in advance from the written materials what the broadcast is going to cover. As I mentioned earlier, it is highly desirable to have a programme guide that tells at least what specific topics will be covered, what the learners are expected to get out of the programme, and what points are most important in the development of the content. The monitor must listen along with members of the group, but he has the added task of analysing the programme as it progresses. He should be noting:

(a) Points raised in the programme that will form the basis for a good discussion;

(b) Difficult points that may need explanation or clarification after the broadcast;

(c) Aspects of the programme content that will require repetition and practice afterwards.

In addition, a good monitor must try to observe the reactions of the listeners during the programme: are they bored? are they losing interest? do they seem to be frowning or look puzzled? are they participating in the exercises when called for in the radio programme? It requires a great deal of practice to make accurate and sensitive observations about learners; the volunteer monitors will become much more skilled at it as the project progresses.

Radio-based literacy projects in many parts of the world have used a technique generally referred to as 'radio-vision'. As you might imagine, radio-vision consists of using radio, audio tape or sound records in conjunction with a visual element, usually colour slides and filmstrips, or large illustrations. Although radio-vision offers the members of the listening group the advantage of having slides and filmstrips in colour to enrich and clarify the radio materials, it does, of course, require each group to have an audio tape recorder, a filmstrip or slide projector, and an adequate and reliable supply system to furnish audio tapes, slides and filmstrips. In urban learning centres it is not unreasonable to think about supplying schools, municipal centres and other institutions with the necessary equipment to make use of this valuable learning technique. In rural areas, however, most literacy projects have felt that the cost of equipment and the difficulties of distribution have made it extremely difficult to implement radio-vision on a large scale.

If radio-vision using a combination of audio tapes, sound records, slides and filmstrips seems unworkable for your project, it is quite possible to employ the same basic principle of combined sight and sound learning by furnishing listening groups with wall maps, large illustrations, letter cards, number tables, nutrition charts, etc., which will be used in conjunction with the regular radio broadcasts. In order to use these visual materials effectively, the monitors need to know how they will be combined with the radio programmes—which is another good reason for furnishing every monitor with a programme guide which lists topics, objectives and, in this case, necessary visual materials.

A good example of the use of pictorial illustration used in conjunction with radio broadcasts is given in the Unesco publication, *Radio and television in literacy,* by John Maddison:

> Some of the ways in which, according to the replies, visual materials are used at the receiving end by instructors in conjunction with broadcasts, are a sort of radiovision of a less pre-controlled kind. An example is the project in Iran. Here pictorial illustration backs the radio message so as to increase visual and auditory memory. The instructors are supplied in advance with pictures. Radio lessons begin with the dramatization of a subject from the week's work in the conventional literacy course for face-to-face classes. Ten sentences with new words are then read at slow dictation speed, while the instructor points at a wall illustration. At each new word, a bell rings and the instructor underlines the word heavily in red. (The Jamaican radio project uses chimes to alert the monitor of impending action.) The ten sentences are read again with the bells. The broadcast ends, down comes the wall chart and the instructor begins the follow-up lesson.

You could, of course, use the same principle by referring to illustrations and exercises in the text/workbooks of the individual learners. The advantage of the wall chart or illustration is that it can show more detail in larger scale than a text illustration. A large wall map or drawing also gives the learners a change of visual concentration—from looking at their books individually to looking at an illustration collectively.

Once the broadcast is under way, the monitors and learners must not become passive listeners. With time and patience, the entire group, including the monitor will find that they become more skilful in listening to and in taking part in the programme structure, and thus they will become more efficient in the activities that follow the broadcasts.

Activities after the broadcast

Although we tend to think of the radio programmes as being the principal source of information and education, much of the learning in a radio-based literacy project occurs as a result of carefully designed post-broadcast activities. The volunteer monitor must try to clarify and enrich the materials contained in the broadcast in a variety of ways, keeping in mind that the need of individuals can vary greatly. At the end of each programme one listener might have a question, another will be anxious to get involved in a discussion, another will want to practise some of the writing skills that were introduced, and others may have had trouble in comprehending certain aspects of the material.

There is a tendency on the part of volunteers and teachers who are working with radio for the first time to go over the broadcast material item by item, essentially re-presenting the content. This is an obvious way of following up on a programme, but it is not very imaginative. Furthermore, it is not very productive with adult learners, especially when many of them are physically tired after a day of hard work. You can suggest to the monitors that they should use different techniques and different combinations of techniques, trying not to become rigid or set in their ways. In the next few pages I am going to suggest a number of things that volunteers can do after each programme: question and answer techniques; practice and drill work; games and puzzles and concept development.

Question and answer techniques

After the broadcast some listeners will no doubt have questions that should be answered immediately. If a point, an expression or an example has been missed or misunderstood, learners will feel ill at ease until the matter has been resolved. If the volunteer is able to answer the question he should, of course, do so, but if he does not have a ready answer he must understand that there is no shame attached to saying 'I don't know, but I will find out as soon as I can'. Many teachers, professors and auxiliaries have been embarrassed to admit that they did not know the answer to a learner's question. The volunteer has to see his role as that of a partner in the learning enterprise—a person who is willing to share what skills he has with others, but by no means does he know everything there is to know.

A learner usually asks a question in a simple, straightforward manner to gain information or to clarify a point that is unclear. A monitor, however, can use well-designed questions for a wide variety of purposes. For instance, the monitor can use a question to find out if a learner was paying attention, if he grasped the main points of the programme, or if he remembers previously acquired information. More important, however, is the question as a means of stimulating learners by leading them to see new dimensions of a problem, and new relationships among the themes they have been studying. Let us take as an example a programme which contains information about vaccinating farm animals to protect them from certain diseases. You could ask each learner to give a definition of vaccination, to spell the word correctly, or to name three diseases that are prevented by vaccination. Questions such as these are, of course, perfectly legitimate. If nothing else they serve to reinforce basic factual information. They are, however, designed to encourage a certain style of learning which is based on the ability to spell, memorize and define.

On a different level of learning, you might ask 'how does vaccination fit into an over-all health programme?' or 'how can neighbours profit by buying vaccine and syringes on a co-operative basis?' Asking good questions is a technique that can be learned through practice and in these initial orientation sessions it is very helpful if you spend some time explaining the different styles of asking questions. Then, let the volunteers practise with other members of the group before they try out the new techniques with their listening groups. Good questions stimulate learners to discover within themselves the resources, the applications and the relevance that this learning must have to be of any real use to them. In addition, a series of good questions can help the monitor to discover where review, practice and drill work are necessary on a group or individual basis.

Practice and drill work: reinforcing new skills

Many of the radio programmes, especially in the early stages of the project, are going to devote substantial portions of time to the mastery of fundamental skills in learning to read and write. As I mentioned in the introduction, each language has its own structure, its own system of symbols and its own rules of grammar, so it is impossible to develop general principles regarding the scope and sequence of instruction in basic literacy that would be applicable to every language.

Whether you are using Thai, Urdu or any other language, the monitors must be very skilful and tactful in directing practice and drill sessions with adult learners. Mastering fundamental reading and writing skills in any language is a slow, often tedious process which requires repetition and reinforcement over a fairly long period of time. On the other hand, adults have a fairly low tolerance for frustration and delayed reward, so it is imperative that they have early and frequent successes in learning these new skills. It is very important that the exercises be structured in such a way that the learners can do *something* almost immediately, whether it be recognize a word, make a letter or symbol, use a written number or grasp an elementary fact.

For instance, in discussing the radio talk as a programming format, I described a technique that gets the listener participating actively during the programme. I purposely chose the letter 'O' for practice within the programme segment, because in English the letters 'O' and 'I' are much easier to form than the letters 'A' and 'E'. In a typical follow-up session after a broadcast where 'O' has been introduced, the monitor would follow a procedure that immediately reinforces the activity pursued during the broadcast, by having everyone make a line or two of 'Os'. As they are practising the letters, he should try to work at least once with each individual, helping him to get the feeling of making the circle, encouraging him when it becomes slightly off-centre, and so on, constantly reminding the learner that he is now making letters! It may seem terribly simple to the monitor to do this but, to an adult who has never before tried to read and write, it is quite an accomplishment and his ego is bolstered immediately. Before going on to other letters, the monitor can introduce different words that contain an 'O' at the beginning, in the middle and at the end. He can move on to practise other letters but come back from time to time to review 'O'.

Whatever system of literacy teaching your project employs, whether it stresses letter recognition and reproduction, or recognition of whole words and simple sentences, the monitor must strive not only to build basic literacy skills, but also to build the confidence of each participant by leading him through a series of exercises in which success is emphasized. As the basic skills are acquired and reinforced, the monitor will need to have at his disposal some techniques for expanding the basic skills into a usable, functional, practical literacy.

5. CASE STUDIES / COUNTRY REPORTS

5.1. Mobilizing People for Community Action: The Tanzanian Radio Study Campaigns

from: E.G. McAnany/J. Mayo, Communication
Media in Education for Low-Income
Countries: Implications for Planning,
loc. cit., pp. 35-44

Mobilizing people for community action: the Tanzanian radio study campaigns

Project origin and rationale. The East African Republic of Tanzania, with a population of approximately 14 million, achieved its independence in 1961. Although Tanzania has remained poor since independence, it has made tremendous strides to improve the standard of living of its people and, in so doing, has become a regional leader and a model for many other African nations.

In spite of a low per capita income, a high rate of illiteracy and the concentration of its population in subsistence agriculture, at the time of independence Tanzania had certain attributes that proved to be advantageous to its future development. In contrast to most other new African States, Tanzania did not have a dominant tribal group. This situation prevented the weakening of the new country through the opposition and rivalry of disenfranchised tribal enclaves. Furthermore, a majority of Tanzanians spoke, or at least understood, Swahili. The unifying power of this language, a language whose stature and prevalence have increased through East Africa in the post-colonial era, is seen in the way the country has developed a strong civic culture and, at the same time, cast off many of the undesired remnants of its colonial past.

An equally important factor in Tanzania's development has been the TANU (Tanganyika African National Union) party. Under the leadership of Julius Nyerere, TANU emerged as the principal mechanism for both the establishment and implementation of development policies. Within TANU, top priority has always been given to rural and agricultural matters, and specifically to the translation of key political goals such as decentralization, popular participation and co-operation (exemplified in the '*ujamaa*' movement) into viable social programmes.

The guiding principles of Tanzanian Socialism were articulated in the Arusha Declaration of 1967. In this statement, Nyerere emphasized the importance of an ideological and popular commitment to democracy and egalitarianism. An important determinant of such commitment was to be education and, in subsequent speeches and documents, Nyerere detailed plans to expand educational opportunity and to make all educational programmes more directly relevant to the exigencies of village life. With this goal in mind, primary schools were encouraged to institute self-help projects and secondary schools were encouraged to become self-supporting. At the same time, an innovative, radio-based community development strategy was begun to provide information and encouragement to rural adults, many of whom had never attended a day of school. The origin, evolution and key elements of the radio development strategy are discussed below.

According to Hall (1978), the notion of using radio to help provide education and stimulate national development actually arose independently within two organizations located in different parts of Tanzania. The Co-operative Education Centre (CEC) was founded in the north-east part of the country in 1964 to help meet the educational needs of local village co-operatives. It employed radio in conjunction with group-study methods adapted from the Swedish labour movement. In Mbeya, a southern highland region, a comparable project was launched at about the same time by the Institute of Adult Education (IAE) of the University of Dar es Salaam. Drawing heavily upon the experience of Canada's farm forums, the IAE also developed a programme based on radio in combination with local study groups.

Beginning in 1967, a series of regional radio courses were mounted separately by the CEC and the IAE. At the same time, the two organizations began to pool their experiences for the first time. Under IAE sponsorship, the initial radio campaign, *Kapanga ni Kuchagua* ('To Plan is to Choose') was launched in 1969. It was designed to popularize Tanzania's second five-year plan and was limited to only two regions of the country. Approximately 1,100 people in fifty-five listener groups participated in this first experimental effort.

However, this initial project was sufficient to spark people's imagination and enthusiasm and, beginning in 1970 with the *Uchaguzi ni Wako* ('The Choice is Yours') campaign, Tanzania developed the strategy into a major educational and political force, eventually reaching over 3 million adults. The nature and level of participation in the different campaigns are summarized in Table 5.

Audience characteristics. As mentioned above, the target population for Tanzania's radio campaigns was rural adults (ages 16 to 40) most of whom had little formal education (80 per cent of participants had no more than four years of primary schooling) and little access to up-to-date agricultural information or educational opportunity. In order to stimulate rural development in areas not blessed with abundant natural resources, Tanzania's planners realized that they would have to mobilize whatever human resources were available. To do this, they embarked on a radical land-reform policy which brought together formerly isolated farm families into larger co-operative units known as '*ujamaa*' villages. Such a policy, they argued, would eventually raise national political consciousness and, at the same time, raise productivity through the pooling of local resources. Radio, in this sense, was viewed as a vital political tool which, in addition to providing much-needed information and encouragement, would also militate against what was still regarded as a largely passive and unco-operative peasantry. Radio and the associated community study groups actually exceeded the planners' hopes as they emerged over time as a major force along with the TANU party for the education and unification of rural Tanzanians.

The learning system. Previous experience with radio and correspondence study in Tanzania and elsewhere alerted the IAE's planners to the need to provide mutually reinforcing communication channels within their campaigns. Accordingly, considerable effort was exerted over the course of the campaigns to ascertain the right mix of mass and interpersonal communication techniques. Although outside advisers provided useful guidance in both programme design and execution, all the methods and materials used

TABLE 5. Summary of five radio listening group campaigns in Tanzania

Campaign	Date	Main agency involved	Nature of the campaign	Number of trained leaders	Number of participants
1. *Kapanga ni Kuchagua* 'To Plan is to Choose'	1969	Institute of Adult Education	Pilot project dealing with the second five-year plan, limited to two regions of Tanzania	30–35	1 100 (in 55 groups, 30 of which were spontaneously formed)
2. *Uchaguzi ni Wako* 'The Choice is Yours'	1970	Institute of Adult Education and others	Parliamentary, presidential and local government elections; predominantly in six regions but with some groups throughout the nation	150	3 000
3. *Wakati wa Furaha* 'Time for Rejoicing'	1971	Institute of Adult Education; Co-operative Education Centre; other agencies	To celebrate one decade after independence, to review development in that period; had nationwide coverage	1 854	20 000
4. *Mtu ni Afya* 'Man is Health'	1973	Institute of Adult Education; Ministry of Education; TANU	To promote a national public-health campaign; had nationwide coverage	75 000	2 million (of which only 1 million had been planned for; many lacked radios)
5. *Chakula ni Uhai* 'Food is Life'	1975	Institute of Adult Education; Ministry of Agriculture etc.	To promote a national campaign for (a) increased agricultural production, and (b) improved nutrition	100 000	3 million

Source: Hall and Dodds, 1974.

in the campaigns were perfected over time in Tanzania. They included: the activation and support of a field organization to establish local study groups, the recruitment and training of group leaders, the preparation and distribution of printed study guides and leader manuals, the preparation of radio programmes and spot announcements to recruit participants and to provide information to the local groups on a regular basis, and the use of the postal system to provide feedback from the field to campaign headquarters. According to Hugh Barrett, who served as an expatriate adviser during this period, it was the flexibility and sense of co-operation, as well as the initiative demonstrated by IAE leaders and their staffs, that was responsible for the success of the campaigns (Barrett, 1976).

Despite the goodwill and motivation of the IAE staff, many political and logistical obstacles had to be overcome to ensure that the campaigns would actually take place. At the outset, the support of Tanzania's political leaders had to be assured. This was achieved through preliminary meetings with members of Parliament, officials of various ministries and leaders of the TANU party. Such groundwork paved the way for the interministerial co-operation which was essential to the organization of the field-work and the eventual co-ordination of local development activities advocated in the campaigns.

Local organization was equally important. Here responsibility fell on TANU's network of local leaders and upon existing grassroots adult-education organizers attached to various ministries. In many instances, community-minded volunteers came forward to co-ordinate the local effort. That local effort included the recruitment of study-group leaders (a role played many times by the community organizer), the provision of a meeting-place, and the explanation of all campaign matters to local leaders.

The local group leader played a crucial role within Tanzania's campaigns and, as the campaigns themselves expanded, so did the need to prepare leaders. The fourth and, by many accounts, the most successful campaign, *Mtu ni Afya* ('Man is Health') called for 75,000 leaders to be trained. That job was accomplished in three stages. In the first stage, some 240 regional officers from various ministries were invited to three-day seminars in which they were told how the oncoming campaign related to national objectives and how to prepare district adult-education officers for the task. During the second stage, district officers received comparable training at some seventy sites scattered throughout the country. The third and final stage consisted of some 2,000 two-day division and ward seminars at which village nominees and volunteers were trained to be study-group leaders. Although the training of group leaders was spread among many persons, the task strained the planning and administrative capacities of the IAE. In retrospect, the campaign's co-ordinating committee concluded that two days was simply not enough time to train group leaders in the use of the multiple methods and materials which were part of the strategy.

In his evaluation of the *Mtu ni Afya*, Hall provides a concise description of how the local study groups, using a combination of communication channels, actually proceeded from learning to action during the campaign:

> Assembling during the prescribed gathering time, group members heard ten minutes of political songs, poems, and short announcements relating to the campaign. Then the twenty-minute core program came on the air, and members settled down to some serious listening. Next, the group leader or another literate person in the group introduced the printed material on that week's topic by reading aloud from the appropriate section of the study guide. Discussing both the radio shows and the written materials, the group related the topic to its own particular area and circumstances. If the information presented seemed relevant, members set about resolving how to prevent the disease or eliminate the health hazard in question. Before the next meeting or perhaps later, the group began acting on their resolutions, either individually within their homes or collectively in the community (Hall, 1978, p. 39).

The study guides and radio programmes fed into and supported the discussions by local groups which were the heart of the campaign strategy. The study guides were developed by the IAE in conjunction with appropriate government ministries (e.g. education, health, etc.). These were selected and sequenced according to the anticipated schedule of weekly meetings. Vocabulary and type faces were chosen so as not to strain the capacity of rural readers, many of whom were barely literate.

The same care was taken in the preparation of the group leaders' manuals. Their purpose was to guide the group leaders in the running of each study session. Accordingly, each manual contained detailed guidelines for each meeting and a complete schedule of the radio programmes associated with each campaign. In addition, notes and suggestions for organizing local study groups and for recruiting participants were included. Finally, in the later campaigns, a tear-out form was added to the manual. Here the local leaders were asked to enter information about the participants: name, age, sex, education, occupation and attendance level. These forms were returned to the IAE, where they eventually formed an important bank of feedback data.

The weekly radio programmes also served multiple purposes. First, they provided vital structure and momentum to the campaigns. Leaders and participants knew in advance what subjects would be treated by the weekly half-hour broadcasts and this knowledge encouraged them to keep going and to keep their follow-up activities and projects on schedule. Second, the radio programme brought to life the development themes and problems of the campaign. Whenever possible, the programme featured recordings by villagers about their own experiences and expectations. This 'local flavour' enhanced both the authenticity and immediacy of the communication. Towards the end of each broadcast, the salient points were reviewed by some official who also provided some specific suggestions for possible follow-up action at the local level. In this manner, the radio complemented and reinforced both printed messages of the campaigns and the actions of the local leaders. Finally, the radio programmes served as indirect publicity for the campaign —a function that was important in maintaining support for the undertaking among Tanzania's decision-makers, most of whom were located in the capital, Dar es Salaam, far from the centre of action in the rural areas.

Scale and duration of impact. With the exception of Hall's 1978 study of the *Mtu ni Afya* campaign of 1973, few hard (e.g. quantified) data exist with respect to the impact of Tanzania's radio study campaigns. In spite of the care Hall himself took to gather reliable field data with which to compare participant versus non-participant communities, the author points out that control procedures were extremely difficult to maintain during the campaign. Thus, he argues, comparative judgements must be seen as more suggestive than definitive. In spite of such warnings, however, the author argues convincingly that *Mtu ni Afya* was a resounding success. On the average, study-group participants demonstrated a percentage knowledge gain score in health of almost 47 per cent (from 43 to 63 per cent). Such a gain was statistically significant at the 0.01 level (Hall, 1978, p. 52).

Because the improvement of rural life was the ultimate objective of the last two and largest campaigns (see Table 5), Hall and others concentrated their studies on the ways campaigns have actually changed the lives of rural Tanzanians. Here again, Hall's data on the 1973 health campaign are most illuminating. Working with collaborators at the IAE, he developed a checklist of pests and stagnant water pools, the removal of vegetation and rubbish from around rural dwellings, and the construction of latrines to meet strict sanitary standards. Surveying in depth every home in each of eight sample villages, Hall found considerable variation on most of the indicators. Such variation stemmed in part from both regional and economic differences; in some areas the cost of implementing recommended practices was too high.

On one indicator, however, the implementation rate was phenomenal. Post-campaign measures of latrine construction revealed an increase of 570 per cent in the eight sample villages. Although many latrines were not constructed to the precise specifications contained in the campaign materials, it was evident to planners and evaluators alike that this one innovation had been widely adopted throughout the nation. Estimates place the total number of latrines built during the health campaign at over 700,000. As Barrett noted in his analysis of the health campaign, the latrines stand today as permanent, if half-buried, monuments to the effectiveness of the radio study method.

The data presented in various evaluation studies, stemming from participant observation, various surveys, as well as the direct feedback from listener groups, also illuminated the following series of problems that befell the campaigns:

1. Many groups (50 per cent in the *Mtu ni Afya* campaign) lacked radios and therefore had to rely exclusively on the study guides or the leaders' manuals.
2. There was a shortage of study guides and other campaign materials because of faulty distribution procedures and long delays in learning about or responding to shortages.
3. The average study group size was too large, approximately twenty-five to thirty-five in most regions. Such large numbers impeded small group discussions and lowered the participation

rate of individual members.

4. The amount of inter-institutional co-ordination needed to plan, execute and follow up on the campaigns occasionally failed to materialize. This in turn prevented local groups from making recommended changes owing to the lack of ancillary support materials and equipment.

Despite these problems, however, the Tanzanian radio campaigns were successful. In the final analysis, some of the reasons for this success are unique to Tanzania, while others probably could be replicated or adapted for use elsewhere. It is worth remembering that the campaigns required very little new capital investment and no new communication technology. Existing technologies—radio, newsprint and post—were modified to meet the needs of newly co-ordinated adult-education, political and administrative services.

The intensive-campaign approach, partly modelled on the experience of Cuba and other socialist countries, was itself a major reason for Tanzania's success. Adult educators and development workers in Tanzania and many nations have experienced difficulty in maintaining participants' interest over time. This realization prompted Tanzania's planners to define more modest and short-term objectives for the campaigns and to limit the time in which they expected to hold the interest and motivation of their audience. Furthermore, the participation of a variety of government institutions was facilitated by the limited duration of the campaign. For many of these institutions, adult education was a secondary concern, and while they would not have been willing to reallocate their resources to a permanent educational programme, they proved more than willing to co-operate on a limited short-term basis. The fact that such institutional co-operation did not accomplish all that it was expected to was a function more of inexperience than anything else.

Perhaps the most significant feature of the campaigns was the close relationship between educational and political objectives in Tanzania that has emerged since the country's independence. The value of participant, study-group methods, especially within a nation striving to build political awareness and commitment to a new political system, is obvious. In all the campaigns, whatever their focal development themes, political education was high on the agenda. The undertaking and acceptance of socialism, by peasants as well as development workers and bureaucrats, constituted the integrating theme and guiding purpose of the campaigns. Without the support of the TANU party at all levels, the campaigns would not have reached so many people, would not have had the authority or the legitimacy to organize people at the local level, and would not have benefited from the active intent and support of so many government officials.

5.2. Not the End of the Story

from: Budd L. Hall/Tony Dodds,
Voices for Development:
A Tanzanian National Radio
Study Campaign.
International Extension College,
Cambridge 1974, pp. 48-51

Chapter 5: NOT THE END OF THE STORY

The last part of this story of radio study group campaigns in Tanzania speaks for itself. To have brought about an average 20% increase in knowledge of vital health practices amongst two million citizens needs no justification. At the same time to have caused a vast increase in the building and use of latrines all over the country is a practical achievement such as few educational campaigns can boast.

The worth of these campaigns is also proved in several additional compelling ways. First the method has proved its effectiveness in reaching large numbers of people in rural areas who have previously not been reached by either formal education or traditional adult education approaches. As an educational approach it offers a practical alternative to the traditional student-teacher relationship. The emphasis in the method is on complete and equal participation of all group members in exploring the relevance and importance of the information distributed by air and print to the reality of each group's existence. This joint exploration results in creation of knowledge which has existential meaning for each and every one of the people involved.

Additionally the method has particular relevance for Tanzania as Tanzania's development strategy emphasises the people's involvement in the discussion of the development plans which will affect their lives. The TANU party guidelines of 1971 state that if development is to benefit the people, the people must participate in the planning of their own future.

The method has further demonstrated its flexibility. Three of the Tanzanian campaigns have covered political education subjects while the last has been on health. The next phase of the *Mtu ni afya* campaign which will begin in 1975 will emphasise nutrition, food production and child care. On a limited basis the method is being used to teach book-keeping, the principles of *ujamaa* and how to run a primary co-operative society.

The final advantage is the economy of the method. The per capita cost of the *Mtu ni afya* campaign, at 1·4 Tanzanian shillings (or US $0·14) for two million people, exemplifies the radical savings which can be obtained through the selective and combined use of mass media and group interaction.

From the detailed accounts of the last three campaigns in Tanzania (1970 to 1974) and from the briefer reports of the earlier projects, certain general features seem to emerge. The most important of these features are worth summarising as a conclusion to this broadsheet because of the possible impact they may have on plans to launch similar projects elsewhere.

First all the projects in Tanzania since 1969 have brought together several different institutions in order to ensure both that the teaching materials drew on the most expert and up-to-date information and ideas available on each subject, and also that groups were organised to take part in the campaign in as many places as possible. This multi-institutional approach has certainly contributed enormously to the quality and to the spread of the campaigns. No one institution could possibly have commanded the many and varied resources that were made available. It has at the same time necessitated the development of an effective co-ordinating machinery to make sure that all the contributions were available when they were required and that the different contributors were informed of and conversant with their own roles and those of the other institutions in the overall campaign.

That such co-ordinating machinery could be developed in a few years has been due in large measure to the particularly favourable climate of official and political opinion towards adult education – and especially to adult education for rural areas – which prevails in Tanzania. The combination of the nationally important events on which the first three campaigns were run and the enormous impetus towards adult education development which were given by the political decisions to make 1970 and 1971 'Adult Education Years', helped to make the method acceptable and encouraged the many institutions involved to find a way of co-ordinating their efforts. Without the support and goodwill of these institutions, including in particular Tanzania's political party, TANU, and the Ministry of National Education, the campaigns could never have reached the mass audience for whom they were intended. Tanzania's particular political approach to adult education is not necessarily a pre-requisite of campaigns of this sort and this size. But it is essential that effective co-ordinating machinery exists and that the campaigns have the goodwill of an elaborate network of field extension educators.

There is another condition imposed by the multi-institutional approach. The planning and preparation period must naturally be longer than if a single institution were preparing everything itself. The election study campaign, with only 160 groups, took nine months of planning and preparation, and *Wakati wa furaha,* with nearly 2,000 groups, took 10 months, and suffered serious setbacks from delays in delivery of the printed materials. *Mtu ni afya* which reached approximately two million people in 75,000 groups began to be planned nearly 18 months in advance.

Tanzania is by no means the only country to use radio study groups, or forums, as a method of adult education. Canada, India, Ghana, Sweden and many other countries have developed similar projects, with varying degrees of success. Most of these countries have attempted to make the forums into a continuing institution of social and educational life, and the programmes into on-going weekly commitments. In Tanzania it has been decided to adopt a campaign approach: each series is planned to last for a specific period of time and a lot of effort and planning is devoted to pre-programme training and group preparation on each occasion. One of the problems of radio study groups (Ohliger, 1967) is that after the initial enthusiasm the interest in and therefore the attendance at forums tends to decrease and that such projects therefore have a limited life span. The Tanzanian campaign approach, which sets definite limits on each series, and starts again with a new or follow-up series and a new publicity campaign after a fallow period, may be a partial solution.

Two major problems, however, persist throughout the Tanzanian experience to date. The first is the problem of distribution of materials, and the second the question of feed-back and follow-up of learning (or teaching) which by the nature of the media used goes out from the experts to the students, is discussed and explored by different groups of students, but cannot be immediately reinforced or corrected if it is inadequate by itself.

First, the question of distribution. This is primarily an organisational problem, but it is a big one, and can be a matter of life or death to particular groups. In all the campaigns described here there are reports of many groups which received insufficient books, study guides or group leaders' manuals. At the same time the evaluation reports emphasise that the printed materials were an essential part of the study process. It follows that where the materials were not received the learning process was seriously affected. There seem to be two points at which the distribution system breaks down: underestimates of the numbers required (and by the nature of this mass education method it is extremely difficult to predict the size of the audience: more reliable estimates can presumably only be made as experience of the campaigns accumulates); and failures of communication betwen the central organisers and the field distribution points on the one hand and between the different field distributors on the other hand who could often help each other out of difficulty. In both cases time is at the root of the problem. This re-emphasises the need for a very long planning and preparation period before the campaign proper is actually launched and for close co-ordination between the preparing bodies and the field organisers.

Secondly, the system does not include an adequate method of feed-back and follow-up. Information when broadcast, whether by radio or print, is inevitably liable to be misinterpreted, misunderstood and even forgotten.

BEST COPY AVAILABLE

Two important characteristics of radio study groups are that they can operate without the physical presence of teachers or subject experts, and that they encourage equal and democratic participation by group members in the learning process. But, by themselves, they do not offer opportunities for points which have not been understood to be explained, for mistakes to be corrected, and for additional information, when required, to be supplied. One possible answer is for the reporting system, which to date in Tanzania (with the exception of the CEC's projects) has been used largely for evaluation and administrative purposes, to be developed into a system of group correspondence education, such as the CEC has itself pioneered. While this would require an elaborate correspondence set-up at the centre, it would probably intensify learning and increase retention.

These conclusions are based on the experience of Tanzania to date. It has been an exciting story, and, from the evidence of the *Mtu ni afya* project, it has achieved some significant success. But it is not the end of the story. A second phase of the *Mtu ni afya* campaign is planned for 1975, and it will emphasise nutrition, food production and child care. There are also tentative plans to spread the method more widely to agriculture and other branches of development. Similar, though smaller schemes are operating and are being planned in other countries. The Tanzanian experience, it is hoped, can serve as an encouragement, as well as a model for such future developments of mass education by radio study groups.

5.3. The Radio Education Programme

from: E.P.R. Mbakile, Radio Education Programme as a Support to Literacy Methods: The Experience in Tanzania. Mwanza 1975, pp. 3-44, with an additional outline of a programme listening report

II. THE RADIO EDUCATION PROGRAMME

The programme, popularly known as "KISOMO KWA REDIO" in Swahili and literally translated as 'literacy through the radio', started its operations in January 1974. It has so far gone through three major stages: a first trial phase which was mainly motivational, a second and third phase both of which emphasized the instructional aspects but without losing the motivational flavour.

A. PROGRAMME AIMS AND OBJECTIVES.

The use of the radio programme had five main aims with related objectives:

1. Motivational:- to stimulate and promote effective participation in the national literacy campaign:
   - a). by creating public awareness and interest in literacy activities;
   - b). by encouraging learners and teachers to participate more effectively in the teaching and learning process;
   - c). by encoraging enrolment and attendance of learners;
   - d). by promoting more effective participation in literacy activities by the leadership.
2. Instructional:- to enrich the learning and teaching process:
   - a). by supporting learners and teachers in providing supplementary instructions and guidelines;
   - b). by developing discussion groups;
   - c). by providing teachers and supervisors with additional in-service training.

3. Functional:- to reinforce the creation of a literacy environment:

   a). by stimulating interest in rural libraries; rural newspapers, supplementary and follow up publications;

   b). by stressing the importance of maintaining the acquired literacy skills;

   c). by promoting the concept of life long education.

4. Communicational:- to solve communication bottle necks:

   a). in the integration of the pilot project into the National Campaign;

   b). by assisting learners and other participants to identify themselves with the literacy campaign by sharing their views, problems and solutions with other groups;

   c). by providing a continuous link between the project and the field through a feedback system;

   d). by informing the nation about the progress of the national campaign.

5. Information source:- through recorded reports, field reports and transcripts be able to provide information and materials for use in literacy training, book production, rural libraries and rural newspapers.

B. EXPECTED CHANGES:

1. Increased enrolment and attendance in literacy classes, reduction in drop-out and drop-in rates, and improved class life in months and sessions;

2. Improved efficiency and ability of literacy teachers and supervisors;

3. Accelerated communication of information and ideas about development problems as defined by the contents of the radio programme;

4. Accelerated communication of information and ideas about the project programmes and the national literacy campaign;

5. The communication of information helping to lead to increased interest in, and better understanding of, the defined problems and thereby promote motivation and effort to solve these problems;

6. Increased acquisition of knowledge and skills; and

7. Changes in attitudes and behaviour towards certain practices.

C. THE IMPLEMENTATION OF THE FIRST PHASE:

Apart from the already identified problem areas, the stated aims and objectives of the programme and the envisaged changes, it became necessary to undertake problem surveys as a first essential step towards programme building and content elaboration. It was also necessary to work out a training programme for forum leaders and supervisors, in relation to programme broadcasts, and to formulate an evaluation strategy.

1. PROBLEM SURVEYS.

These took the form of seeking for opinions of various categories of persons, both at the project and field levels, about the literacy programme and the related problems of implementation and application. During March 1973, a questionnaire was administered to 353 persons from the former pilot areas. The respondents included adult education functionaries, agricultural officers, rural and co-operative development officers, health personnel, and officers from the governmental and party administrative structure. The survey identified the following broblems, in a ranking order:

- poor attendance in literacy classes and its associated activities;
- poor quality of literacy teachers;
- lack of equipment and materials;
- weak motivation because of irregularity in the payment of honoraria to literacy teachers;
- lack of support from the local leadership;
- the value of literacy was not clearly understood;
- the interruption of literacy activities due to socio-economic, cultural and domestic problems;
- problems related to excessive alcohol drinking behaviour;
- poor relationships between the learners and teachers;
- problems related to the Swahili language; and
- poor eyesight.

Additional problem surveys at the grassroots level:

For further elaboration on the identified problems, it was decided to cover an additional sample whose constitution was to reflect a broader spectrum of respondents. Additional surveys at the grass-roots level. Since the first sample was made up largely of respondents whose main role was that of implementation and supervisory nature, the second sample included persons involved in the actual literacy interaction process mainly at the grassroots level. The elaborated questionnaires were administered in June 1973 to 323 respondents made up of groups of literacy teachers, learners, neo-literates, drop-outs, illiterates, literacy class supervisors, ward coordinators, divisional education officers, the local leadership (divisional secretaries, ward executive officers, party chairmen, ten-cell leaders, and literacy committees), and field agricultural officers. The results strongly reinforced the findings from the first sample. It was found that:

- although literacy teachers, adult education officers and the leadership insisted that the literacy programme was much valued, problems of poor attendance, excessive drinking, unwillingness to learn, and cultural related problems were constantly mentioned by them. On the other hand, groups of illiterates, learners, new literates and dropouts indicated that the value of functional literacy was still being seen in traditional literacy terms and the nature of functional and work-oriented literacy was not being perceived by them;

- the leadership saw its role as that of motivating people for effective participation in the literacy programme. However, adult education officers, literacy class supervisors, and literacy teachers felt that leaders could cooperate more effectively by inspecting, supervising and literacy classes, attending meetings and seminars, participating in the distribution of equipment and materials, and the illiterate leaders by enroling and attending literacy classes;
- excessive drinking was one of the major causes for poor attendance and disturbance in literacy classes, it also interfered with the teaching and learning process. These observations were made by all the groups;

- although there were some indications about the understanding of the causes for the shortage of materials and equipment, there was little understanding how the problem could be alleviated;
- in some cases cooperation between teacher and learner, through mutual respect and understanding, was lacking for various reasons but mainly because the two parties did not recognise their responsibilities in the literacy programme. Consequently this affected attendance and effective teaching and learning;
- literacy as an activity was given low priority in relation to farm work and many other activities.

The major problems thus defined provided a foundation for more detailed guidance in programme building and defining programme content of the first phase.

2. PROGRAMME BUILDING AND PROGRAMME CONTENT.

A total of seventeen programmes were prepared through interviews with, and discussions by, subject-matter specialists and officials and leaders at the project; regional, district and local levels; field implementers and participants in the literacy programme. The radio programmes were specifically designed to effectively involve literacy teachers and learners through the coverage of most of the stated objectives as far as possible and the problems that had been defined. The involvement was through group listening and discussions and in order to achieve the latter, discussion questions were incorporated in each programme broadcast. These were read so that the teachers as group leaders could record them down. For programme content, see Appendix A.

3. THE ORGANISATIONAL STRUCTURE.

The Radio Education Department is one of the sections in Functional Literacy Curriculum, Programme and Materials Development Project. The project, in its day - to- day operations, is administered by the National Deputy Director and the Unesco Chief Technical Advisor. The other departments of the project include: Literacy Curriculum and Materials, Training, Agriculture, Home Economics, Field Operations, Rural Libraries, Rural Constructor, Rural Press, Printing and Evaluation.

The Radio Education Department has been headed by the Unesco Radio Education Specialist till June 1975. Other members of the staff have included three national specialists, three production assistants, a radio technician (United Nations Volunteer) and his counterpart. The department is responsible for overall organisation and planning of radio education programmes, training of forum leaders and field staff, liason with Radio Tanzania, cooperation with other national institutions and maintenance of radio equipment. The Radio programmes are defined by the National Deputy Director, the Chief Technical Adviser and heads from various departments. Once defined, the programmes are elaborated by subject-matter specialists in and outside the project. The recorded programmes are recorded in the studio of the project and sent to Radio Tanzania for broadcasting.

At the field level, the radio education programme is supervised and coordinated by the following adult education officials: Regional Adult Education Coordinators, District Adult Education Officers, Divisional Education Officers, Ward Coordinators and Supervisors of Adult Education Centres. These officials are also responsible for the distribution of materials and equipment and training of forum leaders. On the other hand, the Radio Education Department has direct contacts with radio forums through field visits and through the feed-back system. The Organizational chart appears in Appendix B.

4. TRAINING.

A three day training seminar was organised in October, 1973. The seminar was attended by all district and divisional education officers from the former pilot district of the project. This was done because the trial phase was limited to these areas. The participants were briefed on programme outlines; a refresher on how to organise radio listening and discussion groups, the use and care of radio sets, the feedback system and evaluation procedures. In turn, the participants held similar training seminars in their respective areas for the local leader, supervisors and literacy class teachers during November and December 1973. The duration for these seminars were made so short because the same participants had previously been trained on how to organise radio listening/discussion groups in connection with a radio health programme organised by the Institute of Adult Education, University of Dar es Salaam.

5. THE EVALUATION STRATEGY.

The evaluation activities consisted mainly of group reports, field visits, field interviews and letters received from group leaders (it should be noted that the terms 'group leaders' and 'literacy teachers' mean the same thing and are used interchangeably). However, the major evaluation instrument was the group reports. Every group allocated with a radio set was also regularly provided feedback report forms and stamped envelops so that after listening to each programme and discussion, the group leader immediately despatched a group report to the project headquarters. The report form, which has since been revised after the original had been tested through field experience appears as Appendix C.

Collection of Information through a new report form:

The report form was designed for the purpose of collecting the following information:

a). Basic information about membership of the listening groups;

b). Major points of discussions by the groups after the broadcasts, particularly concerning the discussion questions incorporated into the programmes;

c). Decisions reached after discussions and the major actions suggested by the groups;

d). Questions raised by participants during the discussions;

e). Comments raised by the participants about interesting things in the programme and other things they would like to know or hear about;

f). Suggestions about changes in the programmes;

g). Group news;

h). Comments by the class teacher about radio reception and what he thought was of benefit to him in the programme.

Indicators for the study of the Impact of the radio programme.

It was hoped that through the analysis of group reports some impressions would be gained about the impact of the radio programme and the extent to which some of its objectives had been met through the following indicators:

a). Listenership and interests;

b). Effectiveness of programme presentation;

c). Acceptance and understanding of the programme;

d). Decisions on group actions and their implementation;

e). Efficiency and reliability of the feedback system;

f). The efficiency of the management and supervisory mechanism.

6. PROGRAMME BROADCASTS.

Radio sets were distributed during December 1973, the majority of them to literacy classes in the rural areas. The programmes which were prepared at the project headquarters in Mwanza were sent by air some 700 miles away to Radio Tanzania in Dar es Salaam for broadcast. Each programme was first broadcast on Mondays at 4.15 p.m. and repeated on Wednesdays same time.

The purpose was to ensure maximum utilisation and coverage by giving opportunity to those groups which could not listen in on Mondays but had time to do so on Wednesdays. The selected times and days were thought to be generally convenient because these are the times when the literacy classes normally meet throughout the country. Each programme lasted for thirty minutes with the following format:

- an opening theme;
- literacy songs;
- interviews;
- cross section opinion;
- playlets;
- talk by project and outside specialists;
- interviwes from teachers and participants;
- discussion questions.

The format varied according to the particular theme of any given programme. In general literacy songs, recorded from literacy classes and to a certain extent from primary schools, gave the programme a general 'magazine' format. The first programme was broadcast on January 7, 1974 and the last one in the series on April 29, 1974.

7. SOME RESULTS ABOUT THE FIRST PHASE.

Coverage of the Radio Education Programme:

Initially 395 radio sets were distributed by the project and each set was expected to serve one literacy class, however, 500 groups were eventually established. The extra groups are accounted for by the four percent of the 395 literacy teachers with project radio sets who took the initiative of organising two groups instead of one each, and at the same time by the sixteen percent of the 500 groups which were initiated by persons using their own radio sets. The total membership in the 500 groups was 14,000 persons, 22% of which belonged to self-initiated groups. However, the expected membership of groups with project radio sets fell short by 11%. The average membership per group of 31 persons was within the usual enrolment in a literacy class but an observed range of 5 - 90 persons per group was indicative of two literacy classes or more combining to form one radio group. It could also have been due to attendance by members of the community other than literacy class members as evidenced by field visits and interview results.

Average Attendance at Radio Forums or Listeners groups:

In addition to group membership, but most important, was the average attendance of 37% with a range of 19 - 62%. The average attendance was down by about 25% from what had been the experience in literacy classes proper. Some of the reasons for the rather low attendance rate were related to organisational and management problems but the main reason was because radio groups had been organised at the time when literacy class activities were closed in most of the trial areas so that to some people the importance of the radio programme had not been clear.

all the questions and problems raised by participants and for reason already stated elsewhere the Evaluation Unit was not in a position to verify on the implementation of/ decisions that were made by the forums.

III. WHAT WE HAVE LEARNED SO FAR

1. Reinforcing the Resolve to eradicate Illiteracy:

The extensive use of the radio education in the National Literacy Campaign has reinvigorated the resolve to eradicate illiteracy in Tanzania. It started from a thoroughly researched base and with a built-in feedback system it has given a voice to literacy groups, literacy teachers and other members of the community. It has promoted a genuine dialogue among forum participants as well as between the forums, the planners and the administrators of the literacy programme. The radio education programme has all along been flexible enough to respond quickly, wherever possible, to the challenge of emerging problems in the field and the emerging needs of the forum participants, encouraged their efforts and provided them with information and incentives to become educationally self-reliant. By using a diversity of imaginations, creativity and initiatives, the radio education has involved the literate population in the National Literacy Campaign, through its information programmes, literacy songs, competitions and promotional campaigns.

2. Improved Awareness, Interest and Participation:

The evidence available indicates that there was improved awareness, interest and participation in various literacy activities because of the decisions taken and enforced by the literacy groups and the local leadership, most of which were engineered by the radio education programme. One of the major positive results of the radio education programme is that the literacy programme has acquired a more respected outlook.

3. Improved Teaching in Classes:

The literacy teachers claim to have benefitted much from the programme contents and instructions thus making it easier for them to handle their tasks. This claim has been supported by views expressed by literacy participants, supervisors and others that teaching in classes had improved but, above all, that the teachers are being looked upon as best examples in the early adoption of modern practices as defined by the contents of the radio education programme.

4. General Benefits of the Programme:

It is generally agreed, through evaluation findings and field experience that participants in the radio forums benefitted variously from the programme contents particularly in the area of the home-life segment.

5. Limited Facilities:

Results by other researchers and observers have shown that almost everybody who is able to read is badly in need of something that he can read, and the same applies in this case. The radio education programme has created a tremendous interest in this sphere but the facilities are still very limited. The situation becomes worse when some participants indicate that the radio programme has helped them to improve their understanding of the Swahili language.

6. Coverage of Radio Programmes:

It was estimated in 1968 that approximately half-a-million radio sets were available in Tanzania. Since then, with the abolition of radio licences and the production in the country of low cost radio sets, there is evidence that the number of sets has increased dramatically though these sets are presumably unevenly distributed but it is certain that they are available in most places in Tanzania. And where they are not available now for a comparatively small investment, by a cooperative village in the new rural setting, they can be made available. Our experience shows that the radio education programme was largely successful because the target population was already in existence with a well organised structure. A large proportion of programmes broadcast by Radio Tanzania are development oriented but they are not designed as teaching programmes. However, with the formation of Ujamaa (Cooperative) Villages some of these development oriented programmes could be used as the basis for organised non-formal education situations.

7. Availability of Materials and Supervision:

However, experience also shows that the availability of radio sets and the existence of organised groups are not enough by themselves to fully achieve the desired radio education results. The radio forums need materials which must, of necessity, be made available in time but most of all the supervision should not assume the traditional character of inspection. The supervisor must ne available to support and guide the forum leader by offering expert advice and in-service training, etc, all of which are best given during long visits to groups in sessions.

8. Certain inadequacies of the Radio Education Programme:

Although the radio education programme has proved to be a suitable support for the literacy programme and its activities yet certain inadequcies in the methods adopted could be detected. For example, information was passed over which the recipients were willing to apply but could not do so because of the lack of expert guidance. Closely related to this was the half-hour duration of the programmes which was hardly enough to satisfy the understanding needs of the audience. Our experience shows that leaflets and other printed materials, based on the programme contents, questions and problems raised by the forums, etc, distributed to forums and other post-literacy groups greatly enhance and reinforce the radio programme.

9. Need of Suitable Reading Materials:

One of the biggest problems has been what suitable reading materials should be made available to the new literates. The material which has been available so far has not been tailored to their needs but a collection of materials which "we" have always thought to be best for "them". However, the problems and questions raised by the forums have provided a very rich source out of which topics could be drawn to meet the felt needs not only of the new literates but for the entire rural population of Tanzania.

10. Adoption of Innovations:

On the question of the adoption of innnovations, a number of inherent factors and obstacles to making the recipients benefit from the radio education programme became manifest.

These have been mentioned before by other writers and they include: traditional reluctance towards innovations, lack of facilities to experiment with new technologies and the communication factor being in advance of other development factor in-puts. On the other hand the results have shown that the success of the adoption of innovations would depend on how easy it was to have any given decision adopted as well as on the urgency and immediacy of the innovation to the recipients.

11. Review Evaluation Activities:

The shape of the evaluation strategy in such a programme is to be reviewed and reconsidered in the light of the experiences already gained.

APPENDIX A

RADIO EDUCATION PROGRAMMES: KISOMO KWA RADIO SERIES
JANUARY - APRIL 1974.

1. The Inaugural Programme: It put emphasis on the importance and the progress being made in literacy; future radio programmes; how the teacher, as a group leader, should conduct a listening/discussion group; and the importance of group reports;

2. The Value of Literacy: The aim was to motivate, according to objective one, all those concerned in the literacy programme. Questions incorporated were: Why is it essential that illiterate persons are urged to join literacy classes? Apart from the acquisition of literacy skills, what else does an individual gain by participating in the literacy programme?

3. Functional Literacy: The difference between functional literacy and traditional literacy was discussed and emphasis put on the necessity for practical application of what has been learned from the classes. Discussion questions: Why is this literacy programme called functional? What is meant by "Learning has no end"?

4. The role of Learners and Leaders: The aim was to emphasize the role and reponsibilities of both the learners and the leaders and particularly the effective participation by the leadership. Discussion questions: What are our responsibilities as learners and what do we gain by attending regularly?

5. Drinking: Dangers (interview with a medical doctor on aspects of physical effects by alcohol) and the waste of excessive drinking were pointed out; also how drinking interferes with literacy activities and how certain classes have managed to solve this problem. Discussion questions: What are the dangers emanating from excessive drinking? If drinking is a problem in your class, what has been done to solve it?

6. The Supply and Shortage of Equipment and Material: Distribution difficulties and other problems related to supply and demand were explained. Emphasis was put on self-reliance by literacy classes. Discussion questions: What do you think are the causes for shortage of equipment and materials? When shortage occurs in your class how do you solve it?

7. Conflict between farm work and the literacy programme: The relationship between literacy and agriculture and the benefits to be gained through this integration were discussed. A stress was made for the need for a proper balance to be maintained between farm work and literacy class attendance. Discussion question: How are literacy and farm work activities related? How do demonstration plots assist in the learning of functional literacy?

8. The necessity for good relationships in the class: The need for improved mutual respect between the learners and literacy teachers was discussed. Good relationships and discipline in class were emphasized. Discussion questions: Why do you have to respect each other in the class? What do learners and teachers gain through mutual respect? What could bring about good relationship in the class?

9. What should be read and what is there to be read: Participants were informed about the existing books, newspapers and magazines available which they could read as well as the importance of reading in order to maintain the acquired literacy skills. The importance of utilising the existing rural libraries and rural newspapers was also discussed. Discussion Questions: What do we gain through reading books and newspapers and In your class, how do you plan to obtain books/newspapers or any other thing for reading purposes?

10. How to participate in the literacy programme: The theme was on how to budget time for various activities, an emphasis being put according to priority to literacy among other activities. Discussion Questions: Why should literacy be accorded priority and How can we budget our time properly in order to attend literacy classes?

11. Literacy and Home Economics: The discussion was about how the acquisition of literacy could be of practical value and of importance in the home life. Discussion Questions: How does the acquisition of literacy change home life? What important things do you plan to buy with your money?

12. The Role of Literacy Class Committees: The role, responsibilities, and the importance of these committees were discussed and emphasis put on how the learners can assist these committees to function properly and effectively. Discussion Questions: How can you assist your class committee to function effectively? Has your committee been a success and what problems has it solved?

13. The importance of the Swahili language: The needs and importance for the usage of Swahili language in daily life were discussed. Discussion Question: Why is it essential to learn the Swahili language?

14. Learning has no end: The emphasis was that learning was a lifelong process irrespective of age, status, education, etc. Discussion Questions: What is the age limit for learning? Why are the educated expected to go on learning?

15. This is the time: The aim was to stimulate and motivate those who had not joined the literacy programme not to wait any longer. Discussion Questions: Can we persuade our neighbours to join literacy classes? How does literacy assist in the development of our country?

16. Practical benefits from literacy: The emphasis was that participants should put into pratice what they have acquired through the literacy programme. Discussion Question: Do we apply what we have learned?

17. Questions and Answers: A resume of all the previous programmes. Discussion Questions: What have you learned from the radio programme? How would you like the future programmes to be?

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APPENDIX C.

LITERACY BY RADIO

LITERACY PROJECT P.O. BOX 1141 MWANZA.

Programme Listening Report.

Class ________ Date of programme broadcast ________

Teachers name ________ District ________ Division ________ Ward ________

Enrolled: Men ________ Women ________ Total ________

Attending programme: Men ________ Women ________ Total ________

Members of the class attending: Men ________ Women ________ Total ________

Other people attending: Men ________ Women ________ Total ________

Primer used ________ first or second ________

Class began in year ________

TOPIC OF THE PROGRAMME BROADCASTED

1. DISCUSSION REPORT:

(a) IMPORTANT THINGS discussed from the questions asked in this programme:

____

____

____

(b) DECISION reached: ________

____

(c) QUESTIONS from learners: ________

____

2. SUGGESTIONS ON THIS PROGRAMME:

(a) Most interesting topics in the programme: ________

____

(b) Less interesting topics in the programme: ________

____

(c) What topics would you like to be informed more:

____

____

3. COMMING PROGRAMMES:

(a) Changes needed: ________

____

(b) What topics do you like to be covered in the coming programme?

____

____

4. CLASS NEWS:

____

5. TEACHERS SUGGESTIONS

(a) Reception of the programme: Very good ________ good ________ poor ________

(b) Important topics which helped you in this programme (teacher)

____

(c) Do you listen to the programme of "Teachers' Teacher" on Monday & Thursday at 1.30? YES/NO.

This form should be filled by the teacher on the very broadcasting day of the programme "Kisomo Kwa Radio" and then post immediately to Literacy Project Literacy By Radio P.O. Box 1141 MWANZA.

APPENDIX D

LIST OF RADIO EDUCATION PROGRAMMES: KISOMO KWA RADIO SERIES

MAY - DECEMBER 1974.

(Programme 17: (End of Phase I)

18: Beginning of Phase II.

-Crop rotation, its importance and advantages in agriculture;
Improved diet and the importance of eating varieties of food.

19:-Crop pests and control

-Mosquitoes and control

20:-Importance of weeding regularly
-Body cleanliness

21:-Importance of early harvesting
-Importance of food preservation

22:-Keeping of farm records
-Better spending of money

23:-Vegetable gardening
-Why we should eat vegetables and fruits

24:-Soil and water conservation
-Clean water

25:-Marketing of crops
-Vitamins

26:-Poultry for egg - production
-Food taboos

27:-Soil fertility
-Hookwork disease

28:-Spacing of plants
-Diet for pregnant mothers

29:-Modern farm equipment
-Child care

30:-Early planting
-Clothing and its care

31:-Cattle dipping
-Skin diseases

32:-Planning of day to day activities
-

33:-Small scale industries

34:-Self-help through cooperation

35:-Maintenance of farm equipment

36:-Use of oxen and other means of production

37:-Animal husbandry:feeding
-Improved diet

38:-Animal and traditional manure

39:-Keeping small animal as a supplementary
source for meat

40:-Animal husbandry:feeding
-Feeding of schooling children

41:-Conservation of forests and trees
-Hortculture

42:-The care of calves
-Child care

43:-Water use

44:-Questions and answers

45:-Fish dams
-Food taboos and the eating of fish

46:-Pit latrines and their maintenance
- Mixed crops

47:-Questions and answers

48:-Farming during dry season

49:-The National literacy campaign

50:-Questions and answers

APPENDIX E.

RADIO EDUCATION PROGRAMMES: MWALIMU WA WALIMU SERIES

MAY - DECEMBER 1974.

1. Introductory Programme for encouragement to teachers and appreciation of their importance
2. The teaching of Adults
3. The importance of records and reporting
4. Preparation of Lessons
5. Questions and Answers
6. The teaching of agricultural skills

7 & 8. The teaching of reading and writing

9. The teaching of arithmetic
10. How your supervisor can help you
11. Questions and Answers
12. Teaching Home Economics
13. How to use Newspapers
14. The Library and the teacher
15. Questions and Answers
16. Methods of teaching (can your learners read and write)
17. How to teach different groups in your class
18. How to arrange your lesson
19. Questions and Answers
20. Visual aids
21. How to make blackboards and paints
22. How to educate yourself further: correspondence courses
23. Questions and Answers
24. How to educate yourself: cooperative education
25. Library services
26. The year 1975
27. Questions and Answers
28. Questions and Answers
29. How to conduct Radio Education Programmes
30. The meaning of Adult Educatin in Tanzanian context
31. Questions and Answers
32. Why we should use our blackboard properly
33. Teaching Swahili to Adults
34. We shall win
35. Questions and Answers

APPENDIX F.

RADIO EDUCATION PROGRAMMES: KISOMO KWA RADIO SERIES

MAY - DECEMBER 1975

The Radio Unit, after two successful "Kisomo Kwa Redio" Programme series, launched the third series with the same emphasis as series two, which was, among other things; the technical know how of agriculture, Home Economics, Health and reading skills.

Programmes from May were as follows:

1. Innagural Programme
2. More Commercial and food crops
3. Food for the family not pests
4. Don't be afraid to ask questions
5. Both body and plants need minerals
6. Protein yielding plants
7. Nutritious food fresh from the shamba
8. Fruits and vegetables all the time
9. He who asks deserves an answer
10. Reducing load work to women
11. Milk producing animals
12. Good houses
13. Ask and you will get the answers
14. Savings in the bank and elsewhere
15. Small industries
16. Let us build schools for our children now
17. Let us get rid of our doubts by asking questions
18. Ask and you will know a lot
19. Examinations are not the end of learning
20. Voting is your responsibility
21. Money is an outcome
22. Ask questions to widen your knowledge
23. The Government is our shield
24. Questions are answered
25. Protect the body and preserve food crops
26. Hunger is a catastrophe
27. Questions and answers
28. Grass is profitable
29. Committees solve our problems

30. The family and birth control
31. Reduce work by using the plough
32. Agriculture is economics
33. He who asks is not a fool
34. Group discussion and decisions
35. Literacy 1976

APPENDIX G.

RADIO EDUCATION PROGRAMMES: MWALIMU WA WALIMU SERIES

MAY - DECEMBER 1975

In addition to the following programmes, there was a repeat of the series in Appendix E.

1. Further Education by Correspondence
2. Post Literacy groups
3. Further Education by using the library
4. Book borrowing rules
5. Questions and answers
6. How an adult learns (What helps one to learn)
7. How an adult learns (What withholds one to learn)
8. Electing leaders is your responsibility
9. Questions and answers
10. Problems and how to solve them
11. The importance of getting Education
12. Cleanliness and Health
13. Questions and answers
14. How Adult Education can help in reaching the goal of Socialism and Self reliance
15. How to spend leisure time
16. How to use books for group discussion
17. Literacy 1976
18. Questions and answers

LITERACY BY RADIO

Functional Literacy Curriculum, Programmes and Materials Development Project, Mwanza/Tanzania

Programme Listening Report

Class ....   Date of Programme ......

Name of Teacher...   District...   Division...   Ward...

Participants registered: Male...   Female...   Total...

Attendance: Male...   Female...   Total

Students of other classes who attended: Male...   Female...   Total...

Others who attended: Male...   Female...   Total

Book used ...   Book one or Book two ...

Class started in year ...

Topic of the Radio Programme today

1. Report of discussions
   a) Main issues discussed in response to the questions posed in the radio programme ....
   b) Decisions made ....
   c) Questions from the participants .....
2. Views on the programme
   a) Which things were liked by participants .....
   b) Which things were disliked by participants .....
   c) On which matters you would like to get more explanations ......
3. The programmes to follow
   a) Changes required to be made .....
   b) On what issues should the programmes be based ....
4. Information on the class
5. Teachers views
   a) Programme reception: very clear ...   fair ...   bad ...
   b) Important things or points which helped you as a teacher in this programme..............
   c) Do you listen to the programme of "teacher of teachers" on Monday and Thursday at 1:3o? Yes ....   No ....

This form should be filled out by the teacher on the same day of the programme and mailed to the Literacy Project, Literacy by Radio, P.O.Box 1141, Mwanza immediately.

Original Kisuaheli

RADIO EDUCATION PROGRAMME IN TANZANIA

Radio Broadcasting in Tanzania.

By, A.H.L. Kihauli.

I: SCHOOLS BROADCASTING:

A: SHORT HISTORY OF BROADCASTING IN TANZANIA:

Broadcasting began in Tanzania in July 1951. Reception in the area of Dar es Salaam which came from a short wave transmitter proved too be reasonably good and adequate. As a second step in Tanganyika's broadcasting progress, a medium wave service was introduced on March 10th 1958, for Dar es Salaam area, within 32 Kilometres radius. This was shortly followed by a short wave service for upcountry listeners on two wave lengths. The station was then known as the Dar es Salaam Broadcasting Station (D.B.S.), and it was still under the colonial government.

On 1st July 1956, a Corporation, Tanganyika Broadcasting Corporation (T.B.C.) was launced. This was a body which was established by an ordinance. Its main objective was to provide a public service of broadcasting for general reception in Tanganyika. By that ordinance, broadcasting service were required to be means of information, education and entertainment, and to be developed in accordance with the interests of the then Tanganyika.

Four years after independence that is in July 1st 1965, the National Assembly instituted a law in which the structure of the Corporation was changed. In this statutory the T.B.C was then altered and became part of a Government Ministry in order to be able to utilise this organisation fully within the context of national goals and objectives for the benefit of the nation as a whole. In this context, Tanganyika Broadcasting Corporation became Radio Tanzania.

B: SCHOOLS RADIO BROADCASTING: (Educational Broadcasting)

1. History:

Broadcasts to schools were first started in the then Tanganyika in 1954. At that time the transmitter was very small and only a few schools could make use of it. Within two years a bigger transmitter was in use, making it possible for schools throughout the country to participate.

[illegible]. The number of schools listening has of course increased with the growth in the development of education in the country as a whole. In 1960 - 61 there were approximately 360 Primary Schools listening. Today there are over 9,000 with more being added too the list every year as a result of the introduction of the Universal Primary Education (UPE) in 1974.

At first, the programmes were broadcast for Middle Schools only. However, in 1959/60 afternoon broadcasts were started for Secondary Schools. There were then 68 Secondary Schools. Today we have 1952 Secondary Schools on our distribution list. Research has revealed that these broadcasts are also popular among Primary School dropouts who either study privately or take various courses with the National Correspondence Department of the Institute of Adult Education. For the first time this year it became necessary to increase the amount of Secondary School print material in response to several Primary School teachers who wanted to use secondary School Broadcasts for their own advancement.

ii. Administration:

After independence and prior to July 1977, School Radio Broadcasts were administered by the Ministry of Information and Broadcasting through the Director of Radio Tanzania. The Ministry of National Education only Seconded Educational Broadcasters to the Radio. With the formation of a Media Education Unit in the office of the Commissioner for National Education, school of National Education, Actual production of programmes is done by Educational Broadcasters from the Ministry of National Education, while the technical side of production is done by Radio Tanzania in their own studies. Radio Tanzania is also responsible for transmission and the Ministry of National Education prepares and distributes support material to schools.

iii. School Broadcasts Committee:

A school Broadcasts Committee came into existence in 1977 after a meeting that was held on 13th January 1977 between the officials from the Ministry of National Education and Radio Tanzania Dar es Salaam. The aim of the Committee is to enable both organisations to collaborate closely so that the service has the responsibility of reviewing the broadcasts of the preceding year/term and approving plans of broadcasts for the coming year/term. Membership of this committee is as follows:

From Ministry of National Education:

1. Commissioner for National Education - Chairman.
2. Head of Media Education Unit - Secretary.
3. Director of Primary Education.
4. Director of Secondary Education.
5. Director of Teacher Education.
6. Director of Adult Education.
7. Director of Institute of Adult Education.
8. Director of Institute of Education.
9. Head of School Broadcasts.

From Radio Tanzania:

10. Director of Broadcasting.

11. Assistant Director of Broadcasting.

12. Head of Educational Programmes and Research.

With the formation of a sub-committees to do the actual planning of the programmes in conjunction with the Primary, secondary and Teacher Education Divisions of the Ministry of National Education, it has been resolved that the Committee will meet only twice a year to approve plans from the Sub-Committee and the Sub-Committee meets once every month.

iv. The output of School Broadcasts:

There are three targets for the programmes: The Primary Schools, the Secondary Schools, and the Teachers in service or training.

Primary Schools:

There is airtime for 2 hours (four programmes of an average duration of 20 minutes) per School day, 6 days per week, 12 weeks per term 2 terms per school year. There is a total of 576 programmes broadcast each school year. There are 7 subjects broadcast: English, Swahili, Geography, History, Domestic Science, Science, and Political Science.

The aim of Primary school Broadcasts has been defined as "to try to bring to the required level the knowledge a primary school leaver he/she acquires after 7 years of education". It was envisaged that because of lack of relevant textbooks and enough competent teachers in the field, school radio can do a lot in achieving this aim through the transmission of first class programmes. The programmes, therefore, strictly follow the school curriculum. With General Knowledge programmes, efforts are made to take the children where the class teacher can't.

v. Secondary Schools:

There is airtime for 2 programmes (1 hour), 5days per week, 12 weeks per term, 2 terms per school year. There is therefore a total of 240 programmes broadcast each school year. So far the following subjects have been on air- English, Physics, Biology, Swahili, Geography, and Political Science.

As with primary broadcasts there is a plan to be able to broadcast those areas of the curriculum that lack good textbooks and teachers. Proposals for such programmes will come from the Secondary Equcation Directorate of the Ministry of National Education in collaboration with the Institute of Equcation. Lack of enough producers and competent script writers has so far necessitated the use of some BBC transcriptions those relevant to our curriculum.

II: TANZANIA'S USE OF RADIO BROADCASTING IN THE NATIONAL LITERACY CAMPAIGN AND POST LITERACY WORK.

INTRODUCTION:

Tanzania's literacy-supporting broadcasts began in January 1974. A Radio Education Unit had been set up in MWANZA to develop and produce radio programmes in order to overcome communication difficulties as functional literacy programmes spread from the four regions round Lake Victoria to the rest of the country.

PROGRAMME AIMS AND OBJECTIVES:

The use of radio education programme has five main aims with [illegible] related objectives:

1. Motivational to stimulate and promote effective participation in the national literacy campaign:
    - (a) through the creation of public awareness and interest in literacy activities
    - (b) to encourage enrolment and attendance of learners
    - (c) to encourage learners and teachers to participate more effectively in the teaching-learning process
    - (d) to promote more effective participation in literacy activities by the leadership.
2. Instructional to enrich the learning and teaching processes:
    - (a) supporting learners and teachers by providing supplementary instruction and guidelines.
    - (b) developing discussion groups.
    - (c) providing teachers and supervisors with additional in-service training.
3. Functional to reinforce the creation of a literacy environment:
    - (a) stimulating an interest in rural libraries, rural newspapers supplementary and follow up materials; hence intergration'
    - (b) stressing the advantages and importance of maintaining the aquired literacy skills
    - (c) promoting the concept of life long education.

4. Communication to solve communication bottle necks: to aleviate communication problems:

   (a) in the integration of pilot projects with the National Literacy Campaign

   (b) providing a continuous link between the campaign and the field through a feedback system

   (c) assisting learners and participants to identify with the literacy campaign by sharing their views, problems and solutions with other groups.

   (d) informing the nation on the progress of the national campaign.

5. Informational: through recorded reports, field reports, transcripts be able to provide information and materials for use in literacy training, book production, rural libraries and rural newspapers.

THE PROGRAMME DEVELOPMENTS:

Three programme series have been developed so far to fulfil these aims and objectives three types of audience with some overlappings:

1. Class support: "KISOMO KWA REDIO" RADIO EDUCATION AS SUPPORT FOR LITERACY PROGRAMMES:

   A thirty minute programme for learners of literacy and post-literacy groups.

2. In-service teacher training: "MWALIMU WA WALIMU" THE TEACHER'S TEACHER:

   A fifteen minute programme for literacy teachers and supervisors of literacy activities.

3. General motivation: "NYIMBO ZA KISOMO" SONGS (CULTURAL):

   A thirty minute musical and informational prgramme.

PREPARATORY RESEARCH, EXPERIMENT AND TRAINING:

Before any detailed programme building began, the first task of the Radio Unit was to discover and discuss the problems in the field implementation of functional literacy as experienced as it developed within the four Lake Regions. Early in 1973 questionnaires were administered to 353 persons in districts around Lake Victoria to establish a heirarchy of problems facing learners and teachers. The problems resulting were more closely defined in a second survey covering a further 323 respondents reflecting a broader spectrum of those involved in the implementation of functional literacy at the grassroots level: literacy teachers, current learners, participants who had completed the two year learning cycle, drop-outs, non-participants, local level adult education supervisors, local administrative and political leaders.

At the same time a number of programme formats were experimented with and pretested. Training was given to national staff in broadcasting techniques, use of equipment and programme building. A feedback system was devised. Local leaders were trained in how to use the broadcasts. Five hundred radio sets were distributed to classes who were to report on each broadcast.

During field visits untaapped reservoir of promotional and motivational songs was discovered from the adult education classes, local cultural groups, choirs and schools and colleges,

PROGRAMME PRINCIPLES:

1. The surveys made it clearn that the first series of programmes should primarily be motivational:
    - to explain what functional literacy was about in relation to national development.
    - to promote the concept of life-long education; and
    - to encourage educational self-reliance.

    Later series of programmes could deal with more specific teaching in response to the feedback from the first series.
2. Because of the inherent differences between the basic primers (which were in use in 1974 at the two levels) and the different levels of classes within each primer, it was decided to streamline the programmes independent of any specific primer but as integrative as possible so that radio programmes could be relevant both to new learners, to those at intermediate stages and those who had completed the (learning) cycle and needed supplementary materials.
3. The discussion element programmes stress group discussion and decision making. Hence all radio programmes have components of discussion questions before the end of the programme to serve as the basis of post-broadcast group discussion. The groups should listen for the programmes, discuss, adopt resolutions about the possibles implement what is paracticable and evaluate the results.
4. Two way communication with groups meant the designing of a workable feedback system. This was essential for the credibility of the programmes and for programmes to respond to field needs and development for future programme.

    A Programme Report Form was therefore, designed tested and developed. It provides a range of responses and is to be filled in immediately after every broadcast sent to the Radio Unit. It provides information on:

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- the main lines of the post-broadcast discussion
- questions raised by group members
- topics suggested for future programmes,
- teachers suggestions
- class news;
- reception conditions.

IMPLEMENTATION:

1. (A) "KISOMO KWA REDIO" SERIES I: January - April 1973

" LEARNING LITERACY BY RADIO" 30' weekly and repeated.
Seventeen motivational programmes were broadcast to encourage class attendance outline the purpose and importance of functional literacy and discuss the major problems encountered in its implementation. Five hundred reporting groups in the four Lake Regions with a total membership of 14,089 formed the reporting audience for this first series of programmes. Groups were asked to meet specially for the radio programme in their normal class recess period.

(B) "KISOMO KWA REDIO" SERIES 2 and 3: May - 1973 onwards.

Series (2 and 3 programmes) have a stronger teaching content. The programmes are structured in seven segments:

1. Agriculture or Work:
   The generative segment related to the agricultural/work annual cycle;
2. Home life: related where possible to segment 1;
3. Reading: reviewing what is available to read about segments 1 and 2.
4. Literacy Slogan and Exercise:
   Summarising up main programme message and used for work building and reading.
5. Feedback: class questions answered, class news given.
6. Literacy Songs: as programme breaks to support other segments.
7. Discussion Questions: dictated, for teachers listening without teachers' programme guides.

Literacy Component of "KISOMO KWA REDIO" Programmes:

The strictly literacy component as against the functional skills components of the programmes comes in the literacy slogan. This three to six work slogan is dictated at the beginning of the programme for reading throughout the programme. It is repeated by the programme narrator and technical contributors in the course of the programme. In the literacy exercise the teacher is advised to break the words into their syllables and have the learners read them, count them, write them in their exercise books and build new-words from them on the pattern of the literacy exercises from their primers.

The present Handbook is being made available to any teacher requesting it. Lesson notes are also published in the national newspaper and in the Rural newspapers.

"Kisomo kwa Radio Series (2 and 3)"

Programmes have aimed at being comprehensive in their appeal. They have covered general agricultural topics rather than specific crop topics, have included soil conservation, irrigation, animal and range management, tree planting. The home life segments have dealt with child care and nutrition, home budgeting, home handcrafts, Other general supplementary topics discussed: the value of cooperatives, small scale industries, banking and credit and to complement on retaining the knowledge and skills, the stress on how to use Rural libraries and the Rural newspapers was added.

2. TEACHERS' TRAINING PROGRAMME: "MWALIMU WA WALIMU".

" The Teachers' Teacher " 15' weekly repeated twice.

The second priority for radio after developing a class-support programme, was the improvement of the teaching newly-motivated learners received once they joined a literacy class. The teaching force is largely made up of volunteer teachers. At best a volunteer receives an initial training seminar of a fortnight or three weeks and an annual refresher course. Many volunteers have responded to the national call to teach and are doing so untrained. Radio is the most effective means of reaching them as they teach in remote rural areas, and answering the problems they are encountering in the field. Since May 1975 the Radio Education Unit has been producing a fifteen minute extended interview each week on topics related to literacy teaching, and delate from the methodology of teaching adults, to how to make your own blackboard as well as answering teacher teachers' questions. Future programme topics are taken from an analysis of the previous three months correspondence. This programme is popular far beyond the primary teacher audience it is intended for. And its catchy theme song written and sung by a Radio Unit member can be heard whistled and sung in the street and by youths while attending for their cattle.

AN INTEGRATED RURAL COMMUNICATION SYSTEM:

At this point the Radio Education programme come to liason with the Rural Press - because, as it has been already said elsewhere in our course one of the objective of the Rural Press is to supplement (= to support the literacy work) the literacy work by providing supplimentary reading materials, so both programmes the Radio Education and the Rural Press do the same to supplement and complement the development and advancement of the rural people written in the Elimu Haina Mwisho, the Rural Press as well as broadcast in the Radio Eduoation Programme (= Kisomo kwa Radio series).

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Radio Education schedules and timetables are also monthly announced in the Rural news papers. Programmes items are elaborated in the rural news paper Elimu Haina Mwisho. Radio programmes very often elaborate the practical use of the Rural News Paper in the Radio Discussion groups.

In the Rural Library you will very often find Radio (Education) Discussion Groups - as the explanation on how use and manage a rural library is regularly broadcast in these rural radio programmes, "KISOMO kwa Radio".

SOME SHORTCOMINGS AND PROBLEMS:

1. Lack of enough trained producers:

Up to the end of 1978, there has been only 2 producers, It is estimated that only about 25½ of annual school broadcasts, in new productions for lack of producers. There are, nevertheless, plans to recruit more from serving teachers in the Regions. And there are 2 producers in adult education - Dar es salaam and 4 producers in broadcasting for literacy.

2. Training:

There is no training school for Educational Broadcasters in Tanzania. The two producers had to be trained overseas - BBC and ABC (Australia). There are plans to provide initial local training for the novices with the assistance of the British Council.

3. Equipment:

Untill now the Media Education Unit has only 5 portable recorders. This is due to lack of enough funds in the annual budget for the Media Education Unit. The money available for the financial year 1977/78 was only about sh. 200,000/=. Very little can be done with that amount of money.

This had to cover costs for equipment, artists, writers, inservice training, and travel. A lot more equipment is required to make the school Broadcasting section worth its name.

4. Recording Studio:

It has always been impossible for the Ministry of National Education producers to have sufficient producation hours at Radio Tanzania, as the studios are always fully booked by Radio Tanzania Staff. The Institute of Adult Education has always been willing to let them use their studio but there too there is time limitation. Further more the studio does not have provision to allow a large cast to do effective dramatization. The same problem applies to our situation in Mwanza - we have a small recording studio.

5. Office accomodation:

Up to the moment the Media Education Unit is not housed anywhere, for lack of office space. This is the major problem that has delayed the recruitment of new Educational Broadcasters. We find a similar situation in the National Literacy Centre here.

6. Radio reception:

In some areas reception is still poor particularly those along the borders where you have strong interference from the neighbouring countries' stations. The existing booster stations at Mwanza, Arusha and Mbeya haven't quite proved to be very effective in many areas up country.

7. Availability of Radio sets:

Some schools have old and useless sets. Many have none at all. In the 1977/78 financial year the Ministry of National Education had offices to make the purchasing of radio sets for schools a priority number one. Inspection has shown that could be Regions have not implemented this directive as yet. Even when this directive has been followed, a set for each school will not be enough. Streams in the lower classes have now doubled or even trebled in some schools as a result of Universal Primary Education (UPE). Three sets would probably be a good starting point. For those with good sets they have a problem in getting them repaired when need arises. The mobile repairing van belonging to one of the radio manufacturing firms in the country, has not been very afficient. Many such vans would be required now as the number of radio sets in the country has shot up considerably over the last few years. The Ministry of National Education itself has no technicians for this purpose.

8. Availability of dry cells:

Dry cells are not readily available in many upcountry towns and villages. There could be something wrong with the present distribution system. Conversation with upcountry teachers has shown the need for the Ministry of National Education to make some arrangement for schools to buy cells directly from either manufacturing factories Tanzania Elimu Supplies, and Regional Trading Companies.

9. Schools Timetables:

Primry and Secondary Schools have difficulty fitting the broadcasts into the daily routine of school life. If recording facilities were available a member of staff should tape programmes for future use. Casualties in literacy classes create similar situational problems.

10. Use of the broadcasts:

A visit to five Regions made in 1978 has revealed that some teachers are not using the broadcasts to their best advantage. The value of the broadcasts is lost because some teachers do not know how to conduct a radio lesson as such they regard our broadcast time as time to take a rest.

Seminars on how to conduct a radio lesson ere organised in 5 Regions in 1978. Teachers found these very useful and gave most of them new interest in our broadcasts. There are a plan to organise more such seminars in the remaining Regions in future. Dut the basic requirements are funds and trainers.

11. Script writers:

We do not have sufficient script writers, and we have a constant struggle to keep ahead with scripts. A scriptwriters workshop that lasted for a month was organised in the beginning of 1978 using tutors from the Dar es Salaam College of National Education. The turnout was useful but needs a lot of improvement.

12. Print material:

We have difficulty in getting material printed. Of late, the National Correspondence Department has been helping us, but materials cannot be ready in time to allow early distribution. The department is always loaded with their own correspondence material. The Government Printer and others are equally busy.

For more efficient service in the planning and production of support materials for schools, some Educational Broadcasters should be sent out for training.

13. Evaluation on the part of Broadcasts for Schools:

Up to 1970 simple questionnare forms had been in use. There hasn't been any form of evaluation hence for lake of enough producers. This is an area that needs immediate attention for Schools Broadcast. But for literacy the situation is otherwise better.

14. Libraries:

The Schools Broadcasting Unit has no libraries of its own. It will definitely need libraries for books, tapes, and discs. There could be a wide collection of Educational discs e.g. BBC and VOA transcription (both programmes and sound effects). These libraries should be able to swell after programme and material exchange system has been established with other Educational Broadcasting units both in Africa and overseas. In the Literacy Centre there is an attempt keep tape library but no books.

15. The discussion componet is lacking in programmes for Schools Broadcasting.

16. Problems with the feedback system.
   - stamps and envelopes is a common problem;
   - delivery system in Tanzania very slow and cause a lot of inconveniences to the process of two-way communication.

5.4. Instructional Radio

from: Z.J. Mpogolo, Post-Literacy
and Continuing Education,
Berlin (West) 1983,
pp. 29-36

Instructional Radio

(A) National / Local Programmes

Tanzania's literacy-supporting broadcasts began in January 1974. A Radio Education Unit was set up in MWANZA and at the Ministry of Education headquarters in Dar es Salaam to develop and produce radio programmes in order to overcome communication difficulties as functional literacy programmes spread from the four regions round Lake Nyanza to the rest of the country. All the programmes are national being broadcasted centrally by the Radio Tanzania which has three booster stations.

(B) Objectives

The use of radio education programmes has five main aims with related objectives.

(1) Motivational. To stimulate and promote effective participation in the national literacy campaign,
- through the creation of public awareness and interest in literacy activities;
- by encouraging enrolment and attendance of learners;
- by encouraging learners and teachers to participate more effectively in the teaching-learning process, and
- by promoting more effective participation in literacy activities by the leadership.

(2) Instructional. To enrich the learning and teaching processes, instruction and guidelines,
- by developing discussion groups and
- by providing teachers and supervisors with additional in-service training.

(3) Functional. To reinforce the creation of a literacy environment,
- by stimulating an interest in rural libraries, rural newspapers, supplementary and follow-up materials;
- by stressing the advantages and importance of maintaining the acquired literacy skills and
- by promoting the concept of lifelong education.

(4) Communicational. To alleviate communication problems,
- by integrating pilot projects with the National Literacy Campaign,
- by providing a continous link between the campaign and the field through a feedback system;
- by assisting learners and participants to identify solutions with other groups and
- by informing the nation on the progress of the national campaign.

(5) Informational. To provide information and materials for use in literacy training, book production, for rural libraries and for rural newspapers through recorded reports, field reports and transcripts.

(C) Target Population

The adult education radio programmes are meant mainly for total education in the country with particular emphasis on literacy and post-literacy adult learners. There is also a special programme for literacy teachers, particularly voluntary teachers, who are primary school leavers with orientation courses on adult education of short duration.

(D) Time, Frequency and Arrangements for Listening or Viewing

Each programme is broadcast once with a repetition every week. Since adult education broadcasts began the Directorate of Adult Education has distributed 7,000 radio receivers and has formed radio listening groups and trained radio listening group leaders who in most cases are literacy teachers. All educational institutions under the Ministry of National Education have radio receivers which they have been instructed to use for children as well as for adults. The Directorate of Adult Education has prepared, printed and distributed radio broadcast timetables to all educational institutions and radio-listening group leaders.

Before any programme was prepared, the radio unit at the Mwanza National Literacy Centre had to identify problem areas through administration of questionnaires to would-be listeners. 1973 questionnaires were distributed to 353 persons to discover problems facing adult learners and literacy teachers. The questionnaires were administered to literacy teachers, current adult learners, participants who had completed the two year literacy programme, drop-outs, non-participants of literacy classes, adult literacy supervisors and local administrative and political leaders.

(E) Content

Three programme series have been developed so far.

(1) General Motivation."KISOMO KWA RADIO" for publicity and motivation of adult learners. It is a fifteen minute programme for learners of literacy and post-literacy groups.

(2) Inservice Teacher Training."MWALIMU WA WALIMU", the teachers' teacher. It is a fifteen minute programme for literacy teachers and supervisors of literacy activities.

(3) Class support "JIENDELEZE". It is an informational programme.

The general educational motivation programme aims at encouraging class attendance by outlining the purpose and importance of functional literacy and discusses the major problems encountered in its implementation. The strictly literacy component as against the functional skills components of the programme comes in the literacy slogan. This three to six word slogan is dictated at the beginning of the programme for the teacher to write it on his blackboard so that the class has it before them for reading throughout the programme. It is repeated by the programme narrator and technical contributors in the course of the programme.

In the literacy exercise the teacher is advised to break the words into their syllables and the learners read them, count them, write them in their exercise books and build new words from them based on the patterns of the literacy exercises from their primers. The present handbook is being made available to teachers. Lesson notes are also printed in the rural newspapers. "JIENDELEZE" also covers agricultural topics such as soil conservation, irrigation, animal and range management, and tree planting. The home life segments deal with child care and nutrition, home budgeting and home handicrafts. Other topics are value of co-operatives, small scale industries, banking and credit. The broadcasts complement retention of literacy skills by stressing on how to use rural libraries and rural newspapers.

The Teachers' Teacher Programme "MWALIMU WA WALIMU" is designed to improve the quality of literacy teachers. The voluntary teachers who are primary school leavers with short orientation course on adult education form the majority of the adult literacy teachers. At best a volunteer receives an initial training course of three weeks and an annual refresher course of one week.

Radio is the most effective means of answering the problems they are encountering in the field since they teach in remote rural areas. Since 1975 the radio education unit has been producing a fifteen minute extended interview each week on topics related to literacy teaching which range from the methodology teaching adults to how to make your own blackboard as well as answering teachers' questions. Future programme topics are taken from an analysis of the previous three months' correspondence. This programme is popular far beyond the voluntary teachers it is intended for. And its catchy theme song written and sung by a radio unit member can be heard whistled and sung in the street and by youths while attending to their cattle.

(F) Elaboration of Leaflets or Booklets

The radio programmes broadcasted are compiled into booklets and together with broadcast timetables are distributed to the radio listening groups. Because of the shortage of printing facilities, the Department of Adult Education is always loaded with printing materials. Transportation of material to remote areas is still slow and inadequate for good and efficient radio work.

Since the adult education radio programmes were launched in 1974, questionnaires have been used to evaluate the impact of the programmes and materials used. However, lack of radio programme producers hamper efficient administration of these questionnaires.

(G) Production of Programmes

The National Literacy Centre in Mwanza has a radio studio donated by UNDP through UNESCO. It has a staff of five script writers and broadcasters. Two of them have been trained overseas while the rest have acquired radio techniques through on-the-job training. Topics for each programme are decided centrally at a staff meeting and producers of the programmes are appointed to work with the radio education unit.

When the programmes have been recorded they are forwarded to Radio Tanzania in Dar es Salaam. Efforts are made to diversify the programmes as far as possible by involving experts on various topics from party and government machinery at all levels as well as by involving the learners themselves. The Directorate of Adult Education in Dar es Salaam uses the same procudure except that it does not have a recording radio studio and as such uses the studios of Radio Tanzania or that of the Institute of Adult Education in Dar es Salaam.

All adult education radio programmes have discussion questions before the end of the programmes to serve as the basis of post-broadcast group discussions. The radio listening groups listen to the programmes , discuss and adopt resolutions about the possible elements for implementation. A programme report form is designed, tested and developed. It provides a range of responses and is to be filled in immediately after every broadcast and sent to the radio unit. It provides information on the main lines of the post-broadcast discussion, questions raised by group members, topics suggested for future programmes, teachers' suggestions, class news and reception conditions.

The basic problem which weakens the efficient production of programmes is the lack of equipment. Till now the radio education unit has only five portable recorders. It has always been impossible for the Ministry of National Education producers to have sufficient production hours at Radio Tanuania, as their studios are always fully booked by Radio Tanzania staff. The Institute of Adult Education has always been willing to let them use their studio but there too enough time is not available. Furthermore, their studio does not have provision to allow a large cast to do effective dramatization. The same applies to the recording studio of the National Literacy Centre in Mwanza, which is quite small. The number of script writers is also not sufficient and there is a constant struggle to keep ahead with scripts.

(H) Selection of Teachers for Monitoring Study Groups for Preparing Programmes

In Tanzania, particularly in the Lake Zone, before radio programmes were launched in January 1974, one teacher from every educational institution in the zone, as well as literacy voluntary teachers selected to conduct radio listening groups, were given a two week orientation course on group dynamics, particularly of radio listening groups, audio methodology of group discussions and functional literacy concept and its application in Tanzania. There are as many teachers for monitoring study groups as there are radio receivers distributed. Annually a refresher course is conducted for all those with active radio listening groups. For preparing programmes, two of the producers and a broadcaster have been trained abroad through a UNESCO fellowship programme for a period of nine months. The rest have been trained locally on-the-job using the staff of Radio Tanzania and the National Literacy Centre in Mwanza. It is significant to note all adult education radio programme producers and broadcasters are trained classroom teachers with experience in adult education.

(I) System of Co-Ordination

There are regular meetings for adult education radio programme producers and broadcasters attended by representatives of the Directorate of Adult Education, National Literacy Centre and the Institute of Adult Education to review the previous programmes, select topics and work out timetables for the forthcoming programmes. There is a mass media committee of the Ministry of National Education which is chaired by the Commissioner of National Education and attended by representatives of Radio Tanzania, Ministry of National Education and Directors of Education who broadcast on the activities of their Directorates. This committee discusses radio programmes for both the formal and nonformal systems of education. Radio Tanzania has quarterly meetings to review and work out a national radio programme. At each of these meetings which are chaired by Radio Tanzania radio producers and broadcasters of each programme defend their programmes as well as request more air time or postponement or abandonment of some of the programmes. Adult education, ward, divisional, district and regional co-ordinators include information on radio activities in their quarterly reports.

(J) Publicity / Motivation

All important newspapers in the country like "Daily News", "Sunday News", "Uhuru " and "Mzalendo" publicise the radio programmes for every day. The zonal rural newspapers publicise adult education programmes for every month since they are printed monthly. Also Radio Tanzania prints national radio programmes and distributes them to party government officers and various educational institutions in the country. The National Literacy Centre in Mwanza prints and distributes radio programmes for adult education to educational institutions and all adult education radio listening groups.

(K) Cost and Financial Resources

The National Literacy Centre was offered equipment for a radio recording studio as well as 395 radio receivers, one station wagon, three tape recorders and about 1,000 cassettes and tapes by UNESCO during the experimental phase between 1973 and 1976. Throughout the country the Ministry of National Education has purchased and distributed 7,000 radio receivers most of them to educational institutes such as Colleges of National Education, Secondary and Primary Schools and Folk Development Colleges.

Dry cells are not readily available in many up-country towns and villages. Therefore it has become necessary sometimes for the Ministry of National Education to make some arrangement for schools to buy cells directly from either manufacturing factories or Tanzania Elimu Supplies and Regional Trading Companies. Otherwise adult learners are responsible for replacing the dry cells.

(L) Follow-Up Activity

A visit to five regions outside the Lake Zone made in 1978 revealed that some literacy teachers were not using the broadcasts to their best advantage. The value of the broadcasts is lost because some teachers do not know how to conduct a radio lesson. Seminars on how to conduct a radio lesson were organised in these five regions in 1978. Teachers found these very useful and became more interested in our broadcasts. There is a plan to organise more such seminars in the remaining regions in future. The basic requirement is funds.

Songs recorded from literacy classes, schools, cultural groups have been an integral part of the literacy supporting radio programmes and the response to the songs used in the programmes was immediate and enthusiastic. To capitalize on their obvious popularity a national literacy song competition was devised and was planned to culminate with the selection of national winners for the International Literacy Day, September 8th, 1974. The competition provided opportunities for a wide-spread motivation for the national literacy campaign in the following aspects: it was the forerunner of a comprehensive multi-media publicity campaign planned for the national drive against illiteracy; the publicity for the competition had showed that the campaign was of interest in the participation of all citizens; by broadcasting over the Commercial Service of Radio Tanzania the literacy campaigns' message was brought home to a different audience than the usual one listening to the National Service on which other literacy programmes are broadcast; and by having a commercial sponsor for the competition and programmes, the competition involved the local industry in the literacy campaign.

The competition was run in two categories. Registered jazz bands submitted a recording of a literacy song in Swahili - original words and music - and competed for a cash prize donated by UNESCO. Individuals, such as literacy teachers or members of adult literacy and adult education groups submitted either words for a literacy song or a literacy poem in Swahili competing for cassette radio recorders for national winners and transistor radios for semifinalists. These prizes were donated by the Matsushita Company. The response to the competition was far beyond expectations in the sections for poems, though poor in the musical section for registered jazz bands. The judges commented that there was a good geographical spread of entries.

Following on the success of the 1974 competition, it was decided to hold a further competition in 1975 on a similar basis, that is a song competition to provide the basis for a series of radio programmes culminating in the selection of national winners for the International Literacy Day, 1975. The competition was based on song performances, with adult literacy and adult education classes competing in their own areas, and the local selection centre, ward, divisional, district and regional winners. All the twenty regions participated although one region was disqualified. The entries of the regional winners were recorded and their performances were broadcast in the programme series in July and August from which three national winners were chosen and announced on 8th September, 1975.

A literacy slogan-writing competition was conducted and broadcast as a segment in the "NYIMBO ZA KISOMO" programme. A bookwriting competition was mounted which attracted 209 entries, 193 in the general literature section and 16 in the technical section.

A poster competition on a literacy theme for competition among schools was held during 1975. A literacy flag is awarded to the region showing most conspicuous work in literacy activities each month. Now the system has changed slightly in that the flag is awarded once in a period of three months and the second winner is awarded a cup labelled "MASHINDANO YA KISOMO" and the third winner is awarded a shield bearing the same caption.

Also in 1975 a literacy calender for 1975 was prepared with monthly illustrations showing different aspects of functional literacy benefits and a supporting slogan. Literacy cotton prints were produced by National Textiles to publicise the year 1975 as illiteracy eradication year. Fifty cassettes recorded with literacy songs were prepared for distribution to donors of the gift coupons programmes.

(M) Evaluation

The extensive use of the radio education in the National Literacy Campaign has reinvigorated the resolve to eradicate illiteracy in Tanzania. It started from a thoroughly researched base and with a built-in feedback system; it has given a voice to literacy groups, literacy teachers and other members of the community. It has promoted a genuine dialogue among participants as well as between the planners and the administrators of the literacy programme. The radio education programme has all along been flexible enough to respond quickly, wherever possible, to the challenge of emerging problems in the field and the emerging needs of the forum participants, encouraging their efforts and providing them with information and incentives to become educationally self-reliant. By using imagination, creativity and initiative, radio education has involved the literate population in the National Literacy Campaign, through its information programmes, literacy songs, competitions and promotional campaigns.

The evidence available indicates that there is improved awareness, interest and participation in various literacy activities because of the decisions taken and enforced by the literacy groups and the local leadership most of which were generated by the radio education programme. One of the major positive results of the radio education programme is that the literacy programme has acquired a more respected outlook.

The literacy teachers claim to have benefitted from the programme contents and instructions thus making it easier for them to handle their tasks. This claim has been supported by view expressed by literacy participants, supervisors and others that teaching in classes has improved. Above all, the teachers are being looked upon as the best examples in the early adoption of modern practices as defined by the contents of the radio education programme.

It was estimated in 1968 that approximately half a million radio sets were available in Tanzania. Since then, with the abolition of radio licences and the production in the country of low cost radio sets, there is evidence that the number of sets has increased dramatically though these sets are presumably unevenly distributed. But it is certain that they are available in most places in Tanzania. And where they are not available, a co-operative village in the new rural setting can obtain one for a comparatively small investment. Our experience shows that the radio education programme is largely successful because the target population was already in existence with a well organised structure.

Every radio listening group allocated with a radio set is also provided with feedback report forms and stamped envelopes so that after listening to the programmes and discussion the group leader dispatches the report to the headquarters of the National Literacy Centre in Mwanza. The report form is designed to provide the following information:

(1) Basic information about the membership of the listening groups

(2) Major points of discussion by the group after broadcasts

(3) Decisions made after discussions and major actions suggested by the group

(4) Questions raised in the discussions

(5) Comments about interesting points in the programme and other things the group wants to know

(6) Suggestions

(7) Group views

(8) Comments by the discussion group leader about radio reception and what he thought was of benefit to him in the programme

5.5. Radio Broadcasting For Rural Development in Zambia

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RADIO BROADCASTING FOR RURAL DEVELOPMENT IN ZAMBIA

by
Juma Esau Nyirenda

ABSTRACT

The paper describes and examines the experience of Zambia with radio broadcasting in non-formal education for rural development. Educational radio programmes dealing with subjects pertinent to rural development are identified and examined. Evidence shows that true radio broadcasting for non-formal education has been concentrated in the fields of agriculture and literacy. The possibility of mass campaigns is also explored. However, the paper suggests that a co-ordinating national body is required for the success of mass campaigns in Zambia. The argument is that mass campaigns require a sound communication infrastructure to ensure the effective utilization of radio programmes.

INTRODUCTION

Mobilization of rural populations for economic, social, cultural and political development in developing nations involves communication with large but widely scattered communities. The rural communities need to be continuously educated if they are to adapt successfully to modernization. The use of mass communication media can play a very significant role to help bring about such economic, social and cultural development. Among other things, mass communication media can be used (i) to make the rural people aware of their community needs and opportunities for development and (ii) to provide knowledge and skills about potentially rewarding practices in the task of rural development. Thus one of the most important requirements for rural development is reaching the target populations with effective motivational and educational messages that are vital and an integral part of development.

Radio broadcasting is one medium of mass communication that is proving to be essential for rural development. It has been used in both formal and non-formal education. Evidence appears to show that radio broadcasting is more popular than other mass communication media such as television broadcasting because of its cheapness.[1] It has been widely used in rural forums, non-formal schools and study group campaigns.[2] The pervasiveness of radio broadcasting makes it the only means of reaching very large numbers of widely scattered people at a reasonable expense and without delay. Experience in developing countries has shown that radio broadcasting is the most effective way of reaching rural people, particularly the illiterate rural masses.[3] Hachten has summarized the advantages of radio broadcasting over the other mass communication media as follows:

> "It easily overcomes great distance; it is, thanks to transistors, cheaply and easily received, listeners need not be literate; and, it is said, since Africans cling to their oral traditions, the spoken word offers the best results."[4]

Hachten concludes that "there is evidence of widespread use of radio in the rural and still-traditional areas."[5] This statement is true of Zambia. The use of radio broadcasting in rural development and national integration is more widespread than other media of mass communication.[6] This paper is about the use of radio broadcasting in non-formal education for rural development in Zambia.

Non-formal education is defined here as any organized educational activity outside the established formal education system providing learning situations for various target groups which may comprise of adults, children or both.[7] Some examples of non-formal education are the provision of functional literacy programmes and agricultural extension services. Non-formal education provides valued types of learning which cannot be gained easily through informal education. Therefore, the major features of radio broadcasting for non-formal education are: (a) radio broadcasts should have pre-determined educational objectives; and (b) in view of these objectives, radio series should be designed to provide information, knowledge and/or skills. Most important, such broadcasting should help mobilize rural populations towards rural development goals and objectives. It is this kind of radio broadcasting that is the concern of this paper.

The paper attempts to give information on the use of radio broadcasting in non-formal education in Zambia. Although to some extent it is analytical, the paper is mainly a description of the experience of Zambia with radio broadcasting in non-formal education for rural development. Radio Programmes dealing with subjects pertinent to rural development are identified and examined. Further, the need for mass campaigns in Zambia is explored. Information for this paper is mainly from two sources: (a) responses to the questionnaire sent to organizations involved in educational radio broadcasting for adult audiences and (b) existing literature such as journal articles and reports of organizations dealing with educational broadcasting.

PROGRAMMES

True radio broadcasting for non-formal education vitally important to Zambia's rural development appears to have started in the early 1960's with the introduction of radio programmes such as *Rural Notebook* by the National Farming Information Services Department (NFISD) of the Ministry of Agriculture and Water Development. Many other radio programmes for non-formal education were started between the mid-1960's and early 1970's.[8] These programmes are discussed below.

Agriculture

The Ministry of Agriculture through the NFISD has been responsible for radio programmes in agriculture since the 1960's. The Ministry's broadcasting time-table for 1981-82 shows eight programmes currently on the air, namely *Rural Notebook, Farm Magazine, Zambia's Land and the People, Co-operative Today, Rural Development Corner, Radio Spot, Radio Farm Forum* and *Farmer's Notebook*. The first five programmes are broadcast in English and the rest are broadcast in the seven local languages on the Zambia Broadcasting Services (ZBS), namely Bemba, Lozi, Luvale, Lunda, Kaonde, Nyania and Tonga. *Rural Notebook* and *Zambia's Land and the People* started in the early 1960's. The other programmes started in the mid 1960's or early 1970's.[9]

Programmes Other Than Radio Forums

Except for the *Radio Farm Forum*, all the programmes on agriculture have the following features in common:

(a) Their objectives are (i) to provide technical information on modern agriculture; (ii) to create awareness among farmers about the impending agricultural activities. Hence, the programmes are topical; and (iii) to supplement the work of the agricultural extension officers in the field.

(b) These programmes are designed to reach both rural and urban audiences.

(c) They are directed at an unorganized audience. The intention is to capture the general and casual listener. This has resulted in a passive listenership where there is no feedback from the receiving audience to the programme producers.

(d) They are short programmes with durations ranging from five to fifteen minutes. Apart from the *Rural Notebook*, all programmes are broadcast once or twice a week. *Rural Notebook* is on the air daily from Monday to Saturday.

Radio Farm Forums

These started with a pilot project in December, 1966 in Bemba covering four provinces, namely Northern, Luapula, Western (now Copperbelt) and Central Provinces. Broadcasts for radio farm forums commenced in May, 1967. Based on the results of an informal study on the impact of radio forums on the farmers, the project was extended to the remaining six local languages on ZBS. The project covered the whole country by the end of November, 1968.[10]

Radio Farm Forums in Zambia are directed at the subsistence or emergent farmer in the rural areas who had no chance to go for agricultural training.[11] In order to develop this type of farmer, the forums help him to move away from old farming methods to new ones. There are at present 742 forums in Zambia. Each *Farm Forum* has about 15 members interested in agriculture. One of these is Chairman and another is Secretary/Convener.[12]

There are three categories of *Radio Farm Forums*: (a) *main forums* are directly under the supervision of the NFISD of the Ministry of Agriculture which supplies them with radio sets, stationery and other required support; (b) *aided forums* are not directly under the supervision of the NFISD but it lends to these forums radio sets. Further, the Ministry is responsible for training the Chairmen and Secretaries and the supply of registers to all forums; (c) *self-help Forums* are run by individual farmers with their own radios and other facilities.[13]

Programmes for farm forums are broadcast in the seven local languages on the ZBS. For each of them there is one thirty-minute radio programme per week. The Bemba programme is broadcast on the General Service of Radio Zambia (RZ) and the others are broadcast on the Home Service of RZ.[14]

Farm Forum members are involved in the planning and production of radio programmes. They prepare a schedule of topics of interest to them which they send to NFISD for review. After reviewing the schedules from the provinces, the NFIDS prepares a programme schedule for the whole country showing the month, date, topic and the province to record the programme on the topic. In conjunction with the respective provincial agricultural officers, the production team from the NFISD goes to the field for recording.

The main features of *Radio Farm Forums* in Zambia can be summarized as follows:

1. *Listen*: Forum members listen to radio programmes which are broadcast once a week on different topics. These programmes are voiced by the farmers themselves. Members also listen to answers given to questions raised on the previous programme.

2. *Discuss*: Immediately after the broadcasts, forum members discuss the content of the programme. The discussion leads to decision for action on the farms. A report containing questions raised on the programme is sent to Lusaka for answers from specialists. These answers are sent back to forum members through radio or in writing.

3. *Act*: Forum members go back to their farms to actually make use of the information obtained from the broadcast.[15]

Unlike the other radio programmes on agriculture, *Radio Farm Forums* in Zambia have an organized and captive audience. It actively listens to the programmes and provides feedback to the producers. Further, the audience is involved from the start in the planning and production of radio programmes and in the organization and administration of the forums. *Radio Farm Forums* are a good example of broadcasting for non-formal education designed to achieve the goals and objectives of rural development. However, although *Radio Farm Forums* can be said to be contributing considerably to rural development efforts, the strategy of radio forums is not being used to its full potential in Zambia. Radio forums have been unnecessarily restricted to the field of agriculture. The use of radio forums can be extended to other fields such as health, folklore and history, culture, self-government, economic activities and literacy. Further success of the *Radio Farm Forums* in Zambia is being measured through written reports from the forums and what the general public says about them. However, there is great need for a formal evaluation study to determine their effectiveness, especially that there has never been such a study since *Radio Farm Forums* began in 1966.

Literacy

The Department of Community Development encourages and helps rural communities to organize literacy classes. There are two categories of literacy in Zambia: (a) *basic literacy* aims at illiterate adults and trains them to read and write simple messages related to their everyday life; (b) *functional literacy* is for both illiterate and semi-literate adults and provides them with comprehensive education with a literacy component. It is "offered to adults who can draw the most personal benefit in order to make greatest contributions to national economic and social progress."[16] Although it is an appropriate and important strategy in education for rural development, *work-oriented functional literacy* has not been attempted in Zambia. It provides technical and vocational training with a literacy component.

A UNESCO project in the use of radio for literacy work in Zambia was started in September, 1969, in one province by the Department of Community Development. The scheme has since extended to all provinces and literacy radio broadcasts are in all languages on the ZBS.[17] The bulk of literacy radio broadcasts are geared to functional literacy in the rural areas. Hence they are in local languages. There are two literacy radio programmes:

1. *Towards Community Development and Literacy* is broadcast in English once a week. It is a thirty-minute programme and comes in the evening on Sundays.

2. *Adult Literacy* is broadcast in all seven local languages on the ZBS. Suitable translations of this programme's title have been made in local languages. For example in Lozi it is "Lituto ZaBusile" and the Tonga translation is "Lwiiyo Lwabapati". This programme is broadcast once a week in each language. It is a thirty-minute programme.

Radio broadcasting for literacy in Zambia is used to support the community development workers and students engaged in functional literacy classes.[18] Radio has no direct teaching responsibility. The main teaching burden is carried by the community development workers and sometimes in conjunction with voluntary organizations. Subjects taught in these functional literacy classes include housing, self-help projects, health, economics and modern agriculture. Listening groups are organized throughout the country. For example, in 1976 there were 272 listening groups with a total enrolment of 4,973 members.[19] Current figures are not known. The Department provides radio sets and batteries to these groups. However, it does not provide listening shelters. These are built on self-help basis by the listeners themselves.

Deducing from the written reactions and reports from both listeners and community development workers in the field, the Department of Community Development has concluded that literacy programmes have proved very successful due, partly, to an important role which our literacy broadcasting section has been playing in instructing, educating, informing and disseminating new ideas on a much wider scale through the radio . . . for the benefit of our literacy instructors as well as students.”[20] However, the extent of radio's impact on these literacy classes is still unknown. Research is required to investigate into the effects of organized group listening in functional literacy. Variables such as frequency of listening and achievement levels of listeners can be studied. The possibility of radio broadcasting carrying the main teaching burden can also be explored.

Other Programmes

The bulk of educational radio programmes appear to be intended for non-formal education but have no direct contribution to rural development. Their contribution to the needs of rural masses is only incidental. The 1981 ZBS schedule shows the following educational radio programmes in this category[21] (the list excludes all programmes discussed above under agriculture and literacy.):

The major characteristics of these programmes that limit their contribution to rural development are as follows:

1. Like some programmes on agriculture, these programmes are designed for the general audience. A major problem with the general audience is that listeners cannot be easily identified in terms of their characteristics and needs. So messages are transmitted with the hope that some listeners might receive them, even though the listeners' readiness to receive these messages is uncertain. Hence the argument here is that messages carried in educational programmes aimed at the general audience are ineffective.

2. They are either broadly educational or public relations programmes. For example, the *Social Welfare Corner's* objective is to educate the public about the functions of the Department of Social Welfare as well as assist voluntary organizations to disseminate information about their activities.[22]

Programme Title	*Language*	*Broadcasts Per week*
Nutrition Magazine	English	1
Nutrition Talk	English	1
Nutrition Talk	All Zambian Languages on ZBS	1 (for each language)
Zam Youth and Development	English	1
Workers' Education	English	1
Everyday Science	English	1
Your Health	English	1
The Voice of Mindolo	English	1
Social Welfare corner	English	1
Our Industries	English	1
Co-operative Programme	English	1
Police and You	English	1
International Red Cross	English	1

Source: Zambia Broadcasting Services, *Television and Radio Programmes*, Lusaka; Government Printer, 1981.

3. There is very little or no interaction between programme producers and the listeners. This lack of contact by the broadcasters in Lusaka with the target audience seems to contribute to the ineffectiveness of these programmes. Feedback from listeners cannot be expected in the absence of adequate means of ensuring effective programme utilization. Consequently, information required to assist broadcasters to improve the programmes becomes unavailable.

4. The majority of these programmes are broadcast in English. It is expected that only people who understand spoken English well can listen to these programmes, yet as Mytton puts it, "the audience for educational broadcasts in the Zambian languages is very much larger than for the broadcasts in English, most of which reach only a very small audience."[23] It can be observed, therefore, that educational programmes in English have very little or no impact on rural development. However, there is need for a scientific inquiry into the intelligibility to the general audience of the English used in this category of educational programmes.

5. These programmes are usually intermittent in nature. Often they are off and on the air. Such programmes can only be considered as casual rather than serious non-formal education programmes designed as an integral part of rural development.

Generally, the relevance of these programmes to rural development does not appear to exist. While producers and broadcasters in Lusaka work hard to ensure that these programmes are on the air as scheduled, corresponding efforts to ensure that listeners receive them are absent. Obviously listeners for educational programmes need to be guided and supported, especially in the rural areas where communication infrastructure is poor. The impact of programmes needs to be monitored frequently. Therefore, both summative and formative evaluation studies on non-formal educational radio programmes are necessary in order to avoid continued wastage of broadcasting resources such as recording and air time.

TOWARDS THE MASS CAMPAIGNS

In the preceding discussion it was pointed out that the bulk of non-formal educational radio programmes are directed at an unorganized or general audience. This strategy of open broadcasting has been criticised. A general audience is not clearly identifiable. Further, this audience is difficult to reach effectively. It is always uncertain that people are listening to the programmes. Besides, feedback from the receiving audience to broadcasters is ususally absent. Therefore, the problem in open broadcasting is how to ensure that programmes gain and hold an audience and to determine whether this audience is learning from the radio programmes intended to educate them. The minimal effect of a great number of existing non-formal educational radio programmes on the needs of the Zambian rural people should be a matter of concern to all involved in education, broadcasting and rural development. It is therefore necessary to look for broadcasting strategies that can increase the effect of these non-formal educational radio programmes.

Zambia's experience with radio rural forums in agriculture and listening groups in literacy suggests that these strategies have great potential in educating the rural masses for development. Strategies involving active and guided group listening appear to hold great promise. This finding supports the view by Moemeka that individual listening to radio programmes is not likely to elicit enthusiastic reaction from the rural man because of the nature of rural communities which are closely knit. The rural man needs reinforcement from his neighbour or village to motivate and activate him into action.[24]

Therefore, a strategy involving group listening followed by discussion and possibly making a decision for action is necessary for the success of non-formal education for rural masses through radio broadcasting. The strategy of radio rural forums is one possibility. Forums listen in an organized way to selected radio programmes and use these programmes as a starting point for discussion, to increase their knowledge and information and, if possible, to put into practice some of the things that they learn from radio and discussions.[25] However, this strategy does not necessarily have a national audience. Mass radio study group campaigns contain the qualities and characteristics of radio forums. But in addition, they have a national audience and focus on specific national problems in rural development. Mass radio study group campaigns contain listening and study group techniques. A listening group technique is where a group of people is organised to listen to a series of radio programmes together and then discuss the content, while in a study group technique members receive printed study materials from a central source or organization on various topics of interest to them. The group has a leader who is trained in organizing group meetings. It is also provided with a study guide which helps in deciding the pace of study. Mass radio study group campaigns have been very successful in countries like Tanzania in mobilising rural masses for development.[26]

Learning from the experience of countries such as Tanzania, in order to succeed, mass campaigns require a sound infrastructure of utilization personnel and facilities available from national to district level. Personnel who can help in the training of radio programme users and the distribution of support materials, such as broadcast timetables and study guides, are needed. Such an infrastructure ensures the effective utilization of radio programmes. This paper recommends the establishment of some kind of national board or organization whose responsibility will be to co-ordinate activities of mass radio campaigns geared to educate rural adults. The board or organization can look at the rural needs, examine the resources available and then design a system of messages based on actual identifiable needs of rural people, channels and events required for the campaigns. In this way, the experience and skills of the few trained broadcasters and adult educators can be brought together to provide a very effective service of adult educational broadcasting for rural development.

CONCLUSION

True radio broadcasting for non-formal education contributing to rural development in Zambia is in the fields of agriculture and literacy only. Radio programmes for agricultural radio forums and literacy are intended for formally organized listening groups. Such audiences are captive and attentive. They listen actively to the programmes. They also directly gain from these programmes. However, evaluation research studies to determinne their effectiveness are lacking. There is a great need for these studies.

The bulk of non-formal educational radio programmes are directed at unorganized audiences. Such audiences often consist of casual listeners. Thus the contribution of these programmes to rural development is minimal. Therefore, strategies of radio broadcasting which would ensure effective communication with rural masses should be sought. Mass radio campaigns have a powerful modernizing potential. But experience in other developing countries appears to show that mass campaigns succeed when there is a national body to co-ordinate their activities and the available resources.

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5.6. The Rural Radio Forum

by Clifford Donkor

from: K.A. Dikshit/I. Boden/C. Donkor/
S. Bonzon/H.B. Alareon/J. Kostál/
G. Powell, Rural Radio: Programme
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Clifford Donkor

The rural-radio forum

It takes a lot of dedication to be a rural broadcaster, especially to service rural radio forums. There is very little incentive to drive your Land Rover for hours, park and walk for kilometres through forests and rivers to find the forum villages. And yet field visits are the key to successful forums. These provide the broadcaster important feedback information, a grasp of the situation, and make the farmers a more integral part of the entire forum organization.

The radio farm forum started in Ghana more than fourteen years ago, but the idea started in Canada as early as 1940 and was tried out in India in 1954. Similar radio forums have also been organized in Nepal, Thailand and Zambia. Today the farm forum is no longer a new idea, but, adequately organized, it can lead to solving many community problems: make farm technical information more available; promote a sense of cohesion and co-operation in rural communities; spur leadership and shared decision-making; provide a means of contact between the villages and national development programmes.

The author, Clifford Donkor, is a rural programmes producer with the Ghana Broadcasting Corporation, Accra, Ghana.

This article explains the origins and establishment of radio farm forums in Ghana, shows how they are operating today, and provides some observations on the radio forum concept and how it can be applied more effectively to development objectives.

Ghana's 10 million people inhabit 238,000 square kilometres wedged between the Ivory Coast and Togo. For convenience, we can divide the country into four major geographical zones: the coast on the south; the dense forests occupying one-third of the entire territory in the south-west corner; the Volta Lake region formed at the delta of the Volta River; and the savannah in the north, at the rim of the Sahelian country of Upper Volta.

The principal occupation is agriculture (cocoa, corn and vegetable farming), but the country is also rich in minerals, especially gold, bauxite, manganese and diamonds. There is abundant fishing in the lake region and along the coast. But despite the volume of corporate mining and agriculture (Ghana is the source of a quarter of the world's cocoa exports), the basic way of life is farming, and in many cases subsistence farming. While agricultural volume may be high, actual productivity per hectare is below average: hence the need for improved farming techniques and use of media to reach the farmers.

All broadcasting in the country is carried out entirely by the Ghana Broadcasting Corporation (GBC), whose operations are supported by government subsidies, subscriptions and advertising revenue.

GBC broadcasts on short wave and VHF-FM from three transmission points, Accra, Ejura and Tema. Languages used on the home service are Akan, Ewe, Dagbani, Ga, Hausa, Nzema and English: the external service broadcasts in English, French, Swahili, Arabic, Portuguese and Hausa. GBC has its own training school for both radio and television. Diploma and degree courses are also available at the School of Journalism and Communication Studies, University of Ghana (Legon), which now has a basic radio and television studio for training. But there is no facility for training specifically in rural broadcasting.

Background

Rural broadcasting in Ghana began in 1962 with an invitation from the Australian Broadcasting Commission to send a rural technician from Ghana to study rural broadcasting in Australia. This was followed over the years by other training fellowships and courses in Canada, Federal Republic of Germany, Kenya and other countries, as well as Australia. In 1963, GBC started rural broadcasting with a weekly programme in Akan, the language spoken by about 60 per cent of the people. The following year, a daily thirty-minute programme for women was started. And late in 1964 the radio farm-forum project was initiated under the responsibility of GBC with the technical and financial assistance of Unesco and the External Aid Office of the Government of Canada, in response to a recommendation made by the Moshi meeting of Educational Broadcasters in Africa in 1962.

Even with the early modest beginnings in rural broadcasting, it was obvious that rural programmes alone would not solve basic problems of organization, adult education, complicated instructions in farming techniques and group co-operation at village level. Radio had to do more than broadcast; it had to reach out to the people. The organization of forums invited villagers to voice and discuss their own problems, encouraged participation in village affairs and co-operative activities, provided a means for identifying the villagers' interests in the decisions made by the forum. In addition, the forum provided an important social occasion for the village.

Sixty experimental forums and forty control forums were organized for the project in Akan-speaking communities. The United Farmers' Council Co-operatives released eight of their agricultural extension officers to train in rural broadcasting. GBC provided all studio and field equipment, training and personnel facilities, supported by international consultants.

After the forums were organized in the communities, the project undertook five major activities: (a) dissemination of visual aids and printed programme guides based on the theme of the coming broadcasts; (b) broadcast of the programmes; (c) organized group discussion; (d) organized group action; (e) feedback reports and evaluation.

For the project period, a list of topics was selected to include a wide range of activities relevant to rural communities.[1] The calendar of broadcasts, the printed guides, and a pre-broadcast questionnaire were sent to the villages before the first programme was aired. Posters were hung in key meeting points in the communities. After each programme, the secretary of the forum prepared a report on the broadcast and the activities taken up by the forum. After every third broadcast a special talk-back programme was arranged in which forum members were invited to the station to participate in a review/feedback discussion.

The programme today

Some fourteen years after the original project began, we are still continuing with the forums. After the first 100 forums were organized, the number grew to 200 in 1968 to over 300 in 1971, and today our target is 500. If the growth has been comparatively slow, it is because much of the support of the original project has been reduced and the excitement has died down. Moreover, owing to logistical constraints, we cannot organize more forums than we can handle.

There are now three weekly forum programmes broadcast in Akan, Ewe and Dagbani. These are broadcast in the evenings between 18.15 and 19.15 hours on Sundays, Mondays and Fridays. They are preceded by the local news and followed by a health programme.

The format consists of: signature tune; opening;

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[1] List of forum topics: prospects for farmers in the seven-year development plan; the principle of loans and state subsidies to farmers; distribution and marketing of crops and foodstuffs; the problem of storage of perishable crops; new trends in agriculture; foreign trade; family budgeting; career opportunities in rural areas; eat your way to good health; safeguards to national health; opportunities for the handicapped; education—the key to progress; the modern concept of the family; the influence of traditional institutions on educational development in Ghana; the role of religion in our changing society.

introduction of guests for the discussion; discussion; feedback mail and reports of forum activities; announcements of new forums to be inaugurated; and, finally, closing and signature.

The earlier forums were organized with the help of several score field and extension workers from various agricultural and social work offices. In general, field organizers went round the villages and with the help of the local chiefs and elders explained the objectives of the forum to the people. With the field organizer the people then set about electing officers (chairman and secretary) and prepared a place for group listening. While the chairman need not be an educated person, the secretary had to have at least basic writing skills in order to file the weekly reports to be sent to the station. A sample report is as follows:

RURAL RADIO FORUM REPORT

FORUM: Agbozume
SECRETARY: Kwaku Alipodjie Cudjoe
PLACE OF MEETING: Abganu Square
DISCUSSION LEADER: G. C. Ketorwoo
DISTRICT: Ketu
NUMBER PRESENT: 25
NUMBER ABSENT: 46
ADDRESS: P.O. Box 27, Agbozume

Report on broadcast

The problem of water in the villages

Water is becoming a critical problem in the villages. Yes, there are shallow wells, but in the dry season these dry up and it is difficult to find enough water to cook. There is piped water in the larger towns and some can carry it in margarine cans back to their villages. But often some people in the towns sell this piped water! And other people bringing the water in cans sell it in turn to the villages, making a wicked business of a vital necessity.

Beyond this there are also problems of diseased water—worms and bilharzia. Of course the villagers can boil the water, strain it to get the dirt and large objects out of it, put alum in it, but all this is very messy, time-consuming and fussy work for a household of ten people.

Some towns are fortunate in having deep wells and generator-fed pumps. But when there is a shortage of fuel or when conniving attendants charge excessive fees for pumped water, this aggravates the situation.

Ironically, we are near the River Volta, at the very delta, and yet water is a problem! We need a project that can utilize this gigantic source and provide water for everyone.

Therefore, we recommend:

1. All villages that can dig a well should do so, being careful to keep it clean and free of disease and worms.
2. The water-pump station at Agbozume should be supplied with two large generators to assure constant supply, as it is now serving many other towns (Klikor, Dzodze-Penyi, Abor, Akatsi).
3. Where possible, villages should be supplied with regular piped water.
4. The government should take up a massive study and project in order to tap the water of the Volta for the entire region. This project should be given top priority and delegated to a highly trustworthy body.

Organizing new forums

Over the years, however, we have worked on another approach, which seems to have led to the formation of more stable forums. We selected target areas on a relief map (to determine proximity to other villages, levels of development, possible local problems) and set up discussion programmes illustrating what forums could do in that area. We then explained how people in the area could contact the radio producer of the forum programmes or the field organiser in their area. Letters received from this motivational campaign were then read and discussed on the following programme, while the villagers were encouraged to organize, elect officers and have their first discussions. In case some had not heard the programme, the field organizer was instructed to visit the village with his portable recorder and run playbacks of the programme. After the villagers had organized and started some activities, and their reports were coming in regularly, we then prepared for a formal inauguration of the forum or forums, using either portable tape-recorders or the mobile recording van. Meanwhile, air time was allocated for continuously encouraging new activities of up-and-coming forums, and the organization of new forums in the target area. This, incidentally, was usually heard by other communities who were also prompted to organize their forums. Because these forums were strongly motivated beforehand and had already organised for action before the formal inauguration, they usually lasted longer and engaged in substantial activities. On average, inauguration did not take place until a year after the first contact with the community. To the inauguration we tried to invite special guests, government officials and members of the press, to make it a memorable occasion for the village.

Very often the village chief is an active member of the forum and often becomes the chief patron of its various activities, lending his personal and 'political' support.

Forum activities

All forums are always encouraged to undertake earning activities in order to purchase their own forum radio, to obtain secretarial supplies, etc. These are usually communal projects, such as vegetable gardening or animal breeding. As needed, forums are also spurred to collaborate in group or village activities, such as irrigation digging, preparing a festival, building village clinics, constructing feeder roads and marketing centres, testing out new seed varieties and farming methods.

One striking example of cohesion and initiative occurred in 1971 when the Settlement Farm sponsored by the Ghana Government and the Federal Republic of Germany at Agbate, near Peki Wudome, needed volunteers to help harvest an enormous bumper crop. Forums in the Peki-Djake (Volta Lake region) were called in to assist. They not only came but also suggested that the occasion be used to convoke a regional conference of rural forums. Officials from the Food and Agriculture Organization and GBC came to address the forums. Apart from the success of the conference, the bumper crop of corn was completely harvested.

Another collective effort was the response to the breakout of bilharzia (blindness caused by snails) in Todome, Peki. The field organizer in this area informed medical officials in Peki and the Ministry of Health about the epidemic. Peki forums joined in to bring pure water from the Ho region capital. Medical officers brought injections and medicine. These two incidents show that forums can be effective in stimulating group action and self-help.

The production unit

As with the original programme, the production unit today is part of GBC. Although there are some commercially sponsored programmes, the radio farm-forum programme is supported solely by GBC.

Under the rural programmes producer, there are two regional rural officers in the field, two other rural programme producers who prepare other farm programmes, one technician and one programme operator. All received their broadcasting training at GBC's training school. Though two have received some agricultural training, only the programme producer has studied rural science at the university level. Over the years, short training courses abroad have been made available to some of the production staff.

For the field, there are three portable tape-recorders and a mobile recording van on request.

Support for the programme

The earlier forums (during the project period) were given free radio sets. Today, we cannot afford to donate free radios and the people often have difficulty in finding financial sources to cover the cost of a simple radio. About half of the households in Ghana have radios, but the proportion diminishes as one travels north of the forest and lake regions. In the north, the availability of radio sets is a critical problem in the organization of viable forums. Outside of the broadcast itself, occasional field visits, and the presence of a handful of field organizers, there is no other form of financial or technical support for the forums. Even the calendar of programmes and discussion guides were stopped a few years ago due to financial restraints. The only print support we have now are the mimeographed forms for membership enrolment, a one-page paper on the duties of the chairman and secretary, and the feedback report. For forum inaugurations to which important guests or government officials have been invited, there may be a short item in the newspaper.

Feedback and evaluation

After the first formal research on the original radio forum project, there has been no other comprehensive study on the forums in Ghana. Our main source of information from the field has been the reports of the forums themselves or the written or oral reports of our own field organizers. Because of slow postal facilities, mail usually comes in a week late, but over a hundred reports are received regularly. To encourage more reports, those received are mentioned by name, their activities encouraged, their questions answered by farm specialists, and the field organizer is encouraged to visit villages sending in regular reports.

At times, active forums are invited to send a delegation to the station to participate in one of the discussion programmes. It is interesting to note that no written invitation is sent. They are cordially invited over the air and invariably a large number of the villagers do come.

Observations

Before coming to any conclusive judgements about farm forums in Ghana or anywhere in the world for that matter, a number of questions must first be considered.

First, is the radio farm-forum format intended only for a specific time period in a country's development? In other words, is the format as described in this article valid, say for a period of one to three years, after which it must change and adapt to varying social structures, a new set of logistics, different farm problems, advancing technology which may require diminishing dependence on a forum?

Second, if the format is not a static structure but a dynamic one, can we envisage the changes that a forum will have to go through and the broadcasting techniques and styles that have to adapt accordingly? What would some of these changes be? Or after a period, is the forum programme to be dropped and forgotten?

Third, whose role is it to organize, finance and manage the forums? Is forum work the role of the production unit, an agricultural agency, or a co-ordinated activity of several concerned sectors?

These questions are prompted by the development of forums in Ghana. When radio forums were in the initial pilot-project stage, all kinds of support were available: broadcast time, studio and field equipment, transportation, radio production staff, field officers, researchers, support from high officials, international funding. But as soon as the pilot project was completed, six months later, international funding stopped, researchers went back to their respective universities, field officers were taken back to their central urban offices, transportation and support logistics diminished, and the whole burden of organizing, expanding and financing the forums fell on the shoulders of the radio production staff who, in addition, had other broadcasting duties to perform. While the number of organized forums increased rapidly in the first three to four years, the growth since then has been static, although a modest target of 500 forums has been set. As the years went by, there was less and less support and involvement from the original co-ordinating development agencies. If growth appears to have been limited, it is because we have tried to encourage stable forums that will continually engage in their own autonomous activities, rather than fizzle out after their first attempts, and because in view of the reduced support, forum expansion has to be accommodated within the capabilities of the personnel and facilities of the radio production unit.

The first and second questions address themselves to the permanence of the radio farm forum as a format. They are asked especially in the context of Canada's dropping the format after several successful years, and the apparently diminishing interest in the forum in other countries, with some exceptions. Definitely there will be changes in topics, method of presentation, and general broadcast approach. As roads are built, mail services improved, urban centres established, fertilizer and farm products more available, higher literacy and educational levels reached and television competes for attention, the radio programme content and style will have to become proportionately more sophisticated. But will the concept and organization of forums also become increasingly unnecessary? The answer to this question will depend very much on the socio-economic milieu of the audience.

When the forum is organized along artificial lines or solely at the instigation of the radio programme, and with little other rationale, no amount of prodding and service from the radio station can keep these forums alive and active.

When the forums are based upon some already existing social grouping (the clan, the village, a group of farmers with common interests and goals), the forum will more likely be a permanent social organization in which the radio programme will eventually play an increasingly smaller role, more by way of providing information and catalysing activity, and less by way of nursing forums along and providing daily service by radio and field officers. In many ways, the permanence of a forum depends on the quality of the local leadership.

Accordingly, the style of the radio programme *vis-à-vis* these forums will become less 'dependence-oriented', though regular field visits help to maintain their interest and involvement. Radio would have to take a more active role in initiating new forums, but preferably within the already existing social and economic structures.

This in part answers the third question: whose role is it to organize, manage and finance forums? Though in many pilot projects, as in Ghana's case, the organizers were often a mix of development agencies and radio production personnel, it would seem that the real responsibility for organizing, managing and financing forums must be with the forums themselves. Radio, field officers and other development agencies may do their best to motivate, catalyse, assist, but unless forums realize their own responsibilities, they will never become viable or permanent. This is why in our broadcasts, we stress self-financing projects, group work and activity, assisting fellow forums in the region, and discussion, not only of short-term targets, but also long-term goals.

While it is true that in the beginning there should be a co-ordinated effort of the sectors concerned (radio, agriculture, social organizations), the forum planners and the radio production unit must also prepare for eventual disengagement and develop a more autonomous role for the forums.

In all the dialogue that may take place, either in the forums or on the radio, care must be taken to assure that the farmers' hopes and expectations are not raised beyond what is feasible. Many forums disintegrate because after discussion and preliminary local work, the needed response from government offices (roads, infrastructure, electrification, tractors, water pumps, etc.) is not forthcoming. Despite the reasons, valid or not, the rural broadcaster is often caught between supporting the people's demands and apologizing for government delay and inaction. If this happens too often, as it can, the programme tends to lose credibility and audience, and forums would naturally cease functioning. This is another reason for stressing the autonomous work of forums' self-financing, and self-benefiting activities.

As for the future, certainly there is need of more portable tape or cassette recorders of rugged durability, a service Land Rover (for autonomous planning of field trips, equipped with a medium-power VHF transceiver for mobile broadcasting and reporting), a researcher on the production team who can concentrate on background information and keep files up to date, agricultural training for the reporters/producers, modest print support (for calendars of events and programme guides) and occasional work seminars in order to exchange ideas on production and field approaches, possibly with radio forum personnel of other countries.

5.7. Radiovision as an Aid to Literacy Teaching in Niger

by Robert Lefranc

from: W. Schramm/Ph.H. Coombs/
F. Kahnert/J. Lyle,
New Educational Media in Action:
Case Studies for Planners - III.
UNESCO/IIEP 1967, pp. 43-57

Radiovision as an aid to literacy teaching in Niger

The background

The great majority of the adult population of the Niger Republic—rural and urban—are illiterate. The government is trying to teach more adults to read. The most urgent objective is to provide badly needed managerial and supervisory personnel for the nation's industrial and agricultural development. To this end, a literacy service has been created under the ministry of national education.

The campaign encompasses all standard methods, but to offset the scarcity of qualified teachers and organizers, use is being made of audio-visual aids. These consist mostly of radio and film-strip projections. The two are sometimes used individually, but an effort is being made to combine them for increased effectiveness. This combination is known as 'radiovision'.

French is the official language of the Niger Republic, but only 5 per cent of the population understand and speak it. There has been a necessity, therefore, to conduct much of the literacy training in French as well as in the vernaculars. Generally, in urban areas the instruction begins in French while in the rural areas the effort begins with literacy training in the local vernacular.

DEVELOPMENT OF THE PROGRAMME

This campaign, which began long before the Teheran Conference,[1] stems from government initiative and the encouragement of Gaston-Louis Solères, a French expert who developed a method for teaching French to adults. His method utilizes numerous illustrations, originally intended for printed presentation but adaptable to film-strips. The Solères method was put into use in 1961 and the chronology of the programme's development is as follows:

1962/1963. The Solères method for teaching French was used in ten villages in one area (Maradi) at three weekly meetings. During two sessions the instructor projected film-strips and at the third these were projected simultaneously with a radio presentation.

1963/1964. The method was extended to about 100 other villages with instruction at two levels. Those who had been through the earlier programme went into an advanced class. Radio presentations were now incorporated into two meetings each week. In addition, instruction in two vernaculars (Djerma and Hausa) was introduced with four sessions per week.

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[1] World Congress of Ministers of Education on the Eradication of Illiteracy, Teheran, 8–19 September 1965.

Prepared for the International Institute for Educational Planning by Robert Lefranc, Director, Centre audio-visuel, Ecole normale supérieure, Saint-Cloud, France, based on a research mission to the Niger Republic in March 1966

1964/1965. The campaign included 121 beginners' centres, sixty-four advanced centres, and twelve city centres; a total of 197 centres.

1965/1966. Plans were formulated to extend the programme to 150 more villages. Training of instructional personnel was completed, but failure of equipment to arrive on schedule delayed this expansion. Despite the difficulties, fifty new urban centres were opened, forty-three of them operated by the service and seven by Roman Catholic missions.

Public reaction to the project generally has been favourable. Many people of Niger feel a strong desire for self-improvement and, for many, a mastery of French offers the only means of achieving upward mobility. While the authorities wish to encourage literacy in French as a means of national cohesion as well as of social and professional improvement, they have been insistent that rural persons also acquire literacy in their vernaculars. However, even in the rural areas the French programmes hold the greater attraction for the people. Apparently they see no need for vernacular literacy since their customs and lore have been satisfactorily transmitted orally in the past, whereas French offers more apparent advantages. An example of this situation is one village where only five students came to a course in the vernacular while forty-five were attracted by a course in French.

Officials of both government and party have been helpful. At the *cercle* level, those in charge have given much help in establishing the literacy centres by personal action as well as by co-operation in administrative and financial planning. The party has contributed up to half the fees paid to teachers in most cases. In one area, the party collected 200,000 CFA francs to support eighteen literacy centres and it has been found that villages where the party is strong contribute more willingly than those where it is weak.

Village chiefs and Mohammedan holy men (marabouts) usually are in favour of the programmes. The chief serves as president of the centre (although he rarely attends the sessions). Witch-doctors, although seldom attending, provide publicity for the literacy programmes.

Teachers and schoolmasters in the villages also are in favour of the programme, partly because they are usually employed to do the teaching.

The only opposition encountered in the villages has been in remote areas where little or no need is felt for education. In such cases, opposition most often comes from older persons and some tradition-bound tribal leaders.

As the programme has progressed, there has been a tendency to increase the number of urban centres, because it is there that the need is most evident and most urgent, and it is also in the urban areas that the most positive results have been accomplished.

An attempt will be made to link the literacy campaign more completely with the activities of rural life. More attention will be paid to obtaining the participation of village leaders, teaching them agricultural methods which may be applied in their own village areas.

Organization

The literacy service is a part of the ministry of education. Pending the completion of the new National Pedagogical Centre building, it is housed in the municipal building in Niamey, the republic's capital city.

The headquarters of the service is divided into a pedagogical bureau, staffed by a professor, four teachers and a designer, and an administrative section which has a secretary, an equipment clerk, five translators, and some drivers and office boys. For some time the service director was aided by a Unesco expert. There are at present five French and two United States staff members helping at the service headquarters.

The service operates in ten regions and in each region it has the following organization:

A *contrôleur* (regional inspector), a native usually assisted by a United States Peace Corps volunteer. The *contrôleur* is responsible for regional administration and travels extensively, visiting the centres in his region.

A literacy committee, which consists of the *commandant* (district governor), a committee secretary, and the heads of various organizations and services whose activities make their participation appropriate. These committees send regular reports to service headquarters in Niamey.

Village instructors. These are usually teachers who supervise the class meetings from 8 p.m. to 10 p.m. The teachers receive extra pay for this work, usually 5,000 CFA francs (about U.S.$20) per month for a five-month term. They are assisted in local work by a village committee consisting of the chief, leaders, medical assistants, other teachers, and young people of the rural area active in stimulating enrolment.

Personnel training is divided into separate programmes for the three levels of operation.

At the village level, training is for the instructors, nine-tenths of whom are professional teachers, although frequently of low qualification. Each region has annual training sessions for these instructors lasting a week. The sessions are directed by the *contrôleur* and the Peace Corps assistant and, whenever possible, a director from service headquarters. During the session the literacy programme is described and demonstrations and practical instruction are given with special emphasis on methods of teaching adults and on the use of audio-visual aids.

For regional workers, an annual training session is held in Niamey during October or November, which lasts a week to ten days. In July, a seminar is held to review the annual campaign which has just been completed. Every aspect of the programme, operational and pedagogical, is reviewed. The forty-eight persons attending the 1965 review seminar included four *contrôleurs*, seventeen regional committee secretaries, six Peace Corps volunteers, sixteen instructors selected among those considered 'most representative', and five directors from the service headquarters.

In 1965 five particularly active regional employees were sent to France for five months of study.

For service headquarters, emphasis has been on overseas training. Most of the officials of the literacy service have completed courses in France, and some have taken additional technical training, for example in the construction of models, in the use of projectors, and in graphic production techniques.

Programmes and teaching

Two types of programmes must be distinguished: (1) literacy and education of adults in the rural areas; (2) urban and functional literacy.

1 EDUCATIONAL PLAN INCLUDING A COMPLETE LITERACY CYCLE

First year

Literacy. Syllable breakdown of vernacular, learning of transcription signs, The aim is for students to read fluently at end of the year and to be able to write short passages. A series of five booklets in four languages has been published under the title *Savoir pour mieux vivre* (Learning for a better life).
Arithmetic. Numbers up to ten, addition and subtraction with carry-over, multiplication up to nine by nine, short division.
Educational themes. On the most pressing topics occurring in the vernacular.
Spoken French. Twenty-one lessons through radiovision leading to a 700-word vocabulary and construction of simple sentences.

Second year

Literacy. Revision; paper-bound books for reading material, short articles in the vernacular.
Arithmetic. Revision; rudiments of the metric system, measurement of time.
Spoken French. Limited number of film-strips with increasing use of co-ordinated radio presentations, guided conversation.
Expansion of educational themes and the inclusion of themes from radio club broadcasts. (See 'Radio clubs in Niger', page 59.)

Third year

The *community centres* are no longer the sole responsibility of the literacy service, but the service still retains the initiative in the instructional field.
Literacy. A vernacular newspaper is provided to maintain acquired literacy skills.
Arithmetic. Arithmetic books are distributed to students.
Spoken and written French. Only the best students are able to follow the course in written French.
(At the *urban centres*, a programme of spoken and written French is designed to lead to fluent reading in two years. Monographs in French are distributed. One such monograph is planned on the traffic code. It is to be noted, however, that the course in written French planned for 1966 was deferred to 1967. The remainder of the programme follows the same lines as in the rural community centres.)

2 URBAN AND FUNCTIONAL LITERACY INSTRUCTION

While carrying out the rural programme just outlined, the literacy service also undertook other types of action in cities and towns to give education and training to illiterate workers. The programme took the following forms:

Establishment of urban literacy centres. Forty-three centres, attended by tradespeople, skilled workers, drivers, craftsmen, public works employees, etc. These students are motivated by a desire to achieve practical results quickly. A combination of integral and syllabic instructional methods is used in nightly sessions consisting of thirty minutes of instruction in spoken French and seventy-five minutes in reading and writing.

Experimental classes in spoken French, for employees of a corporation, in which fifty-one workers are instructed by tape-recorded lectures co-ordinated with film-strip projection. The method is basically the same as the rural 'radiovision' programme except that the vocabulary is specialized for the practical needs of the students in their work.

A functional literacy course, for 150 workers of a cement plant in Malbaza, in which priority is given to spoken French and arithmetic. Instruction in writing is delayed until the second phase.

Other specialized functional literacy courses are planned to meet specific needs of various areas. This has led to a new formula for the intensive literacy effort. One such programme proceeds at the rate of six hours of instruction per day for three weeks. The literacy service is planning to conduct experimental programmes utilizing television, as soon as equipment is available.

The general plan of the course in spoken French comprises twenty-one les to be taught over twenty-one weeks with three sessions each week. The fir session introduces new material via film projections. The second and third sessions begin with revision and go on to follow-up work and guided conversation. In the third session, a radio broadcast is used to stimulate conversation.

As an example of the teaching method used, the following extracts are quoted from a booklet, *Advice to Instructors*, covering films one to seven:

> FIRST PHASE Project the film and stop on frame one of the lesson. Pronounce the commentary on this projection in the native language and then immediately pronounce the corresponding commentary in French.
>
> Repeat this commentary and then let your students repeat it several times individually and collectively.
>
> While still making the class repeat, go to the screen, mimic the situations and make them understand by gestures what you are saying in French. You will easily be able to adopt a conventional system of gestures and mimicry which the class will recognize and use, thus facilitating the understanding (for example the words for *for, beside, on, under, large, small, far, in,* etc.).
>
> When you feel that the class has repeated the French commentary sufficiently, show the next frame and go on with the procedure you have just followed to the last projection of the day's lesson: frame six. Correct all faults of pronunciation. *Remark:* Leave out the 'oui' (yes) of the commentary in this first phase.
>
> SECOND PHASE Bring the film back to frame one. For each projection, put the question in the native language and then immediately ask the same question in French exactly as shown on the caption. Repeat and have the class repeat individually and collectively until they have all memorized it. Correct the pronunciation of each person as required.
>
> THIRD PHASE Bring the film back again to frame one. After having given an example two or three times by asking the question and then answering it in French, put the question in French to the class and make them answer it in French. Question them individually and collectively and correct their pronunciation as needed. *Note:* The commentary should be expressed by the adults exactly as on the caption.
>
> FOURTH PHASE Dialogue in French between the students themselves is now possible. For each picture shown—first in order and then changing the order—the students should be able to ask each other in French the question corresponding to the picture, and the students answering should be able to give the correct answer.
>
> Direct this question and answer game yourself by: (a) indicating the student who should ask the question; (b) insisting that both question and answer shall be strictly according to the caption; (c) correcting all mistakes of pronunciation or of intonation.

The educational approach in this literacy method is defined in the same instruction booklet, from which the following passage is a quotation:

> It should be well understood that literacy is only one aspect of education, and that learning to read and write is not an end in itself but a means of obtaining the education which will enable the individual to free himself from his ignorance.
>
> The educational themes which we suggest for your use are intended to teach something useful in the fields of hygiene, agriculture, domestic economy and home management, child care, the

organization of the nation, and various skills and occupations. This part of the teaching should give your literacy students many ideas and reasons for doing things in a certain way.

What will be your exact role in this connexion?

First of all you can play the part of an adviser, an educated man who has read and studied. But do not forget that while you may be well versed in certain fields, your students are adults who have as much and perhaps more practical experience than you yourself.

You should be the guide for the discussion, the one who asks questions, calls on individuals to speak, and makes them stop if necessary (this rarely happens, but you may have to do it sometimes) and steers the discussion toward the desired conclusions.

It will be noted that the students are systematically brought round to taking an active part. They must not only understand, they must also construct. That is why the lessons are geared much more toward the form of argument and discussion than to the traditional lesson form.

PROGRAMMING

Except for local variations, the usual schedule is three sessions of one hour and a half per week. For one-half of the last session, the instructor uses radiovision.

It is planned to enlarge this process as soon as additional regularly scheduled transmissions can be provided by the Niger Radio broadcasting service.

TEACHING MATERIALS

Publications. The basic textbook for the beginning classes is the booklet, *Savoir pour mieux vivre.* The subjects are related to geography, hygiene, and arithmetic, besides literary passages and writing exercises.

For the advanced class, the students are given small booklets which deal with practical matters relating to health, culture, civic life, etc. The advanced students also receive *Le courrier de l'alphabétisation* (The Literacy Courier), a publication which is eagerly read not only by the adults in the literacy classes but also by the authorities and people of the villages because it constitutes the only printed means of information which can be read by the rural population.

The third-year classes use French textbooks, the *Méthode Solères améliorée* (Improved Solères Method), monographs in French, and arithmetic books, and the weekly French-language newspaper, *Le Niger.*

A number of books and pamphlets are also provided for the instructor, including teachers' handbooks of spoken French, written French, and arithmetic, and advice to instructors.

Films. Twenty-one film-strips of twelve to fifteen frames each are used which show situations and characters well known to the students.

SOURCE OF THE PROGRAMMES

All of the text materials intended for teaching in the vernaculars have been produced locally and those intended for teaching spoken and written French —including pamphlets, books, and film-strips—have been produced in France, with the exception of the newspaper.

This procedure is not devoid of certain disadvantages. In fact, while the technical quality of the materials produced in France is undoubtedly superior, there have been considerable delays in transportation. (The start of the 1965/66 programme came near to cancellation solely because of a delay in the delivery of text materials.) Further, it is not always easy for the officials at Niamey to follow as closely as they would like the preparation of the materials. It appears desirable that in the future these should be prepared in the country itself, so far as possible. This holds particularly for the shooting of the film-strip pictures, even if the manufacture of the strips must continue to be done in France.

EVALUATION

There has been no formal evaluation procedure, with the exception of the testing of text materials in the 1962/63 programme, using ten villages in the Maradi area.

Various procedures are used for what the operators of the experiment call their 'feed-back' system. Teacher reactions are obtained in various ways and are carefully considered. The teachers often write letters to the responsible authorities, telling them of the progress they are making and the difficulties they encounter. The inspectors prepare reports on each visit they make. Finally, at the end of the school-year seminar, teachers have an opportunity to express their point of view.

Suggestions made by officials in other government services (agriculture, public health, etc.) are extremely helpful, because they often provide information on the wide effects of certain parts of the instruction and of certain aspects of the literacy campaign. For example, when it is officially reported that the number of cases of some diseases has decreased in a certain proportion, this may be definitely linked with the measures which have been advocated in the literacy classes.

It is more difficult to check the reactions of the adult students themselves. In fact, their reactions are known only through the teachers, who hear them in the discussions which take place after the lessons.

Check-up surveys also supply valuable data. In 1964/65, surveys were carried out in almost all the teaching centres. In general, they are conducted by the *contrôleur*; in Niamey and Say they are effected directly by the members of the service headquarters. The surveys have been made an average of three times for each teaching centre during the five months of instructional activity, except in the Magaria and Maradi areas, where the check-up has been more irregular.

The annual report summarizes in this way the procedure used:

'By survey, we mean an extended inspection by an official—who may be a *contrôleur*, a Peace Corps volunteer, a regional committee secretary, or a member of the central headquarters staff—qualified to make observations and suggestions on teaching methods. We have not considered as surveys or check-ups the rounds made for the sole purpose of distributing material or the visits by authorities and other distinguished or interested persons, however much these visits are appreciated and useful in encouraging the adults and in the success of the teaching centres.'

The main criticism expressed regarding the radio transmissions appears to be that the sentences are too long and the time allowed for repetition by the students is too short. As a consequence, it is now proposed to change the nature of the broadcasts to a format relying primarily on sketches.

Results

Attendance. The first indication of results obtained can be provided by the rate of attendance by the adults at the literacy teaching centres.

In 1964/65, 6,007 of the 11,219 adults enrolled in the 197 teaching centres successfully completed their courses, or 53.5 per cent. In view of the system adopted in the Niger Republic, this is considered highly encouraging. The literacy centres enrol very large numbers at the beginning of the courses, anticipating that many will drop out during the first week—including those who are least capable of learning, those who are not really interested, and those who move about too much to be able to attend.

The literacy service has very accurate statistics concerning the percentage of adults who have successfully finished the courses. The average is always in the vicinity of 50 per cent, divided as follows: beginning classes, 55 per cent; secondary classes, 49 per cent; urban centres, 55 per cent.

These averages, however, do not show the great variations between respective teaching centres, as seen in the following extremes of attendance rates for first-year classes: 17 per cent at N'Guigmi and 71 per cent at Maradi.

The average number successfully completing the first-year classes in the larger towns is generally between 50 and 60 per cent.

Literacy criteria. Results are established on the basis of the following criteria. The literacy service considers an adult literate if he can do the following things:

1. Read fluently, understand, and write simple texts in his own language, these texts being of the nature of the literature printed in the publications supplied by the service. It is not a question of simply being able to make out the words,

but the adult must be able to write short letters or messages communicating news, and to give and receive information.
2. Count up to 1,000 and perform the basic four arithmetical operations.
3. Speak elementary French with a vocabulary of 1,000 words.

It is evident, however, that the achievements go well beyond this narrow compass. The adults gaining literacy in fact have also acquired knowledge in such fields as health, hygiene, agriculture, and administration.

The results cannot be measured on the sole basis of scholastic criteria. For example, the medical authorities of the Zinder area have noted that the number of deaths from meningitis and measles has declined greatly in villages where the literacy campaign has been conducted. In the Madaoua region, the number of rural parents bringing their children to the dispensary has more than doubled, and a more active participation in public meetings in the village is also noted.

Equipment

The necessary papers for literacy instruction are printed on an offset machine given to the ministry of education by Unicef. Priority is given at the ministry to the use of the machine for this purpose.

The literacy service headquarters has three document-reproducing machines—a Gestefax and two Gestetners—and one photographic reproduction machine. There is also a photographic laboratory.

The radio transmissions are produced partly in the studios of the National Radio, usually from 9 a.m. to 11 a.m. on Thursdays. The literacy service itself also produces certain programmes, using a Perfectone tape recorder donated by Unesco. One person devotes his entire time to the production of transmissions, and these are prepared increasingly in conjunction with the audio-visual centre.

In 1965, the following equipment was in use: 200 radio sets, 100 of them Grundig and the other 100 TechniFrance; 200 Broussard filmslide projectors; 200 Coleman and Petromax pressure lamps; 200 globes; 200 maps of Africa, 200 maps of the Niger Republic, 20,000 student notebooks, slates, pencils, 64,000 soft-bound textbooks.

All material needing repairs is sent or taken by the *contrôleur* to the chief town of the region or to Niamey. The audio-visual centre handles the repair of the radio sets. The high-pressure lamps are serviced and repaired by local firms.

Twelve vehicles of Land-Rover type supply the transportation. Nearly all the equipment was obtained through aid agencies of other countries or international organizations.

SUGGESTIONS FOR IMPROVEMENT OF EQUIPMENT

There has been much trouble with some radio sets having plywood cabinets. In many cases, these cabinets had to be replaced after the rainy season. The literacy service would like one of the international organizations to design a simpler type of set, possibly adapted for only one wave-length and constructed for use in tropical Africa.

The performance of the projectors has been satisfactory, but the literacy service wants to try other projectors of the kerosene-burning type. The light bulbs have been satisfactory, but the service would like to standardize on Petromax bulbs, which are easier to handle and better known in Niger.

The slates have not been satisfactory, and the type should be changed, and too many of the ball-point pens which were supplied were old and dried out.

Notebooks, black-boards, projection screens, film slides, and maps have been satisfactory. Some of the globes have suffered from climatic conditions.

The literacy service has had some difficulty in equipping new centres and replacing worn-out material. Considerable difficulty has also been encountered with the delivery of equipment, because of delays in material coming from Europe and from the United States and the shortage of trucks to transport the material to the regional and district headquarters.

Financing

BUDGET

For 1964/65 the literacy budget amounted to 33.5 million CFA francs—about 5 per cent of the national education budget. The breakdown was as follows:

Equipment and operation of the central headquarters	5 000 000
Equipment of the literacy teaching centres	11 000 000
Operation of the literacy teaching centres	3 570 000
Regional personnel	9 000 000
Training of supervisory personnel	1 500 000
Printing and publications	3 500 000

The technical assistance personnel provided by multilateral or bilateral agreements were not included in this budget. These included one Unesco expert, three experts from the French ministry of co-operation (one professor on special assignment and two regular teachers), one designer, and five general workers from the United States Peace Corps.

BUILDINGS AND EQUIPMENT

For the time being, the service headquarters has only four rooms available. As noted earlier, the staff will move to the pedagogical research and action centre soon to be constructed. A fund of 25 million CFA francs is expected to be available, of which the 'Aid and Co-operation Fund' will provide 17 million. In these new buildings, the literacy service will have the use of about fifteen rooms.

The nature of the equipment for production, reception, and class-room use, as well as its financing, has already been described.

COST OF TRAINING PERSONNEL

In 1964/65 the training of personnel by the service headquarters involved an expenditure of 1.5 million CFA francs, covering overtime for teachers and living expenses of the trainees. In addition, Unesco and France provided a number of scholarships for study abroad.

RECURRENT EXPENSES

These include various items, such as the remuneration of part-time personnel and including actors, salary and overtime of technicians in repair and maintenance of the equipment, and overtime and fees for teachers.

RESOURCES

The funds available have rapidly increased; the 1965/66 budget is almost double that of 1964/65. This was chiefly due to the doubling of the French aid fund, 14.5 million to 30 million CFA francs. It is also to be noted that the United States contributed thirteen persons instead of the five sent in 1964/65. The supply of paper from this country has tripled as well.

The sources of the budget receipts are foreign aid, the Niger government, the *cercles* (districts), and regional administrations. By way of example, a breakdown of sources for the 1964/65 budget is shown as follows: French aid, 14.5 million; district and regional governments, 5.0 million; budget appropriation by the Niger government, 14.0 million.[1]

As has been pointed out, scholarship funds and salaries paid to their own personnel by France, the United States, and Unesco are not included in the above budget.

[1] Amounts are approximate, in CFA francs.

The future outlook

In the literacy service report, the expansion programme is defined in the following way in so far as the regions are concerned:

'In the regions in which literacy-teaching centres are open, the literacy service will establish contact with the human advancement services in order that the various development activities can proceed in unison in the respective areas. The literacy service will also be mindful in its extension programme of all opportunities to strengthen the spirit of national unity among the different ethnological groups in the Republic of the Niger by striving, in so far as possible, not to leave any regions entirely without any educational activity, but will endeavour to disseminate a degree of culture throughout the entire territory of the Republic. The programme shall be developed, in particular, for the nomadic regions. Six new regional inspectors will be assigned to the principal regional capitals of the country, and also six new Peace Corps volunteers. They will be provided with the vehicles necessary for the inspection of the literacy-teaching centres.'

It has been considered appropriate that some of the literacy centres having elementary and secondary courses should enlarge their programmes to a great extent.

The participants in the 1965 seminar considered that the seven-month interval between two five-month terms of literacy teaching was too long for adults. Those who have partially learned to read and write should be helped to retain and consolidate what they have learned. However, because of certain factors—the training of instructors, the marketing of agricultural products, the rainy season, and seasonal work in the fields—it is not possible to start the teaching periods before the first of January or to continue them beyond the month of June. Some other formula must therefore be adopted in order to continue the literacy programme during the bad weather and before the beginning of the following term.

It was therefore decided to publish a news bulletin, in newspaper form, in the Madaoua and the Zinder regions. These news-sheets in the native vernacular would be edited and published locally by the regional inspectors on subjects of interest to the rural population, making use of the news and information about important events gathered in the region itself. The central headquarters can see advantages in this experiment which go beyond the scope of literacy itself. In fact, these news-sheets can serve as a vehicle for other services—agriculture, water and forests, stock-breeding, technical development, public health, party and government—which have decisive parts to play during this period and a continuing responsibility for spreading and popularizing improved methods, but which have so far had only inefficient means with which to perform their tasks, usually relying upon lectures followed by a few demonstrations.

A publication of this kind not only can offer many opportunities for the application, during this period of intense farming activity, of what has been learned during the previous term, but can also help to give a better understanding of the way in which the new techniques are dependent upon the ability to read and write, thus providing a strong stimulus for the study of the mother tongue.

The minister of education is planning to establish a permanent school for the training of instructors for the literacy service. In this way it should be possible, in 1966/67, to open literacy-teaching centres in villages which at present do not have personnel capable of directing such a centre.

The courses in the new school will be conducted full-time for two years, the requirement for admission being the CEPC (equivalent to a lower-secondary certificate). The school could take 100 students the first year and 100 more the following year so as to turn out 200 literacy instructors within the two-year period. A study programme of thirty hours of class-room instruction per week plus fifteen hours of 'laboratory' is planned which consists for the most part of the following subjects: history, geography, French, civics, literacy and adult education methods, adult psycho-pedagogy, hygiene, first-aid, child care, audio-visual media, linguistics, group-leader techniques, community development, drawing and designing, and physical education.

It is understood that graduates of this school will become regular members of the teaching corps of the ministry of education, and will devote their day-time hours to the teaching of children.

Conclusion

Radiovision still should be considered an experiment, as so far it has only been used on a small scale. Most of the time it is the voice of the teacher which supplements and supports the visual image projected—and not a radio programme conceived and integrated with the film-strip.

In proportion to the over-all work involved in today's campaign against adult illiteracy, the part played by radiovision is relatively small. In fact, radiovision is hardly integrated in the effort as a whole. Moreover, the audio-visual aspect of the instruction is still superficial, if not optional.

Nevertheless, a methodological extension of the use of radiovision and its systematic insertion into the literacy programme would undoubtedly offer certain definite advantages, among which the following may be noted:

1. A fixed rhythm of work for the control of both the local organizers and the adults who want to learn to read and write.
2. A good pronunciation of French, as spoken on the radio by well-qualified persons.
3. Improvement of the logistic support, in particular with regard to the broadcasting coverage and the transportation of equipment and text materials used in the instruction.

4. The production of film slides and of radio programmes at Niamey.
5. Strict technical and pedagogical co-ordination of film-strips and radio transmissions, in their conception and in the transmission and follow-up.
6. A rejuvenated concept of the radio programmes, to make them better adapted not only to adults who are learning to read and write but also to the respective population groups of Niger.
7. The establishment of a more effective feed-back system, which could be modelled on the system used by the radio clubs.
8. Better training for the local instructors using the radiovision system.
9. A more systematic co-ordination at both national and local levels between the literacy effort and other activities undertaken for the improvement of adults by other organizations or government departments. It is especially to be desired that the local contact and reception structure should be co-ordinated, as this would certainly be much to the advantage of the various services using such a structure and also of the adults themselves.
10. Systematic production of reading material for adults who have recently become literate, both in their respective vernaculars and also in French.

5.8. Radio Clubs in Niger

by Robert Lefranc

from: W. Schramm/Ph.H. Coombs/
F. Kahnert/J. Lyle,
New Educational Media in Action,
Case Studies for Planners - III,
UNESCO/IIEP 1967, pp. 61-78

Radio clubs in Niger

The background

The radio club programme in the Niger Republic was founded in June 1962, on the initiative of the Radio Broadcasting Service, Radio Niger, and officials acting in a private capacity.

While the programme uses the facilities of Radio Niger, it is responsible to a chartered organization, the Association of Radio Clubs of Niger (ARCN), in which several ministries and administrations are represented. The programme has developed at a deliberate pace; by 1966 there were forty-two clubs and it is expected to reach a ceiling of seventy by 1967/68.

The value of this necessarily limited experiment stems primarily from the effort it represents: (a) to cultivate democratic practices in the villages; (b) to create a body of well-trained leaders; (c) to set up carefully planned reception centres; and (d) to make use of a complex system of feed-back and comment.

The radio clubs were founded to fill gaps in the national broadcast service. In the publicity release announcing the formation of the programme, ARCN pointed out that, although the majority of the nation's population is rural and engaged in agriculture, the bulk of the programming on Radio Niger bears the mark of an essentially 'city' type of production. In the regular radio programmes there was little or no opportunity for those outside the cities to find a means of self-expression. The radio clubs were developed 'to form an association of radio listeners which will be representative of all the population centres of the country and will group together all those who wish to *participate* in the radio activity of the Republic of the Niger'.

While earlier radio-club programmes in other countries provided some inspiration, the programme in the Niger Republic is unique in that it has been able to incorporate its own adaptations to the radio-club concept. Officials of Radio Niger had tried to offset the centralizing tendency of the radio service by a network of local correspondents. Some of these were provided with tape recorders; and around these correspondents, groups of listeners formed who engaged in discussions. The shortage of radio receivers acted as a stimulus to the formation of such groups. These discussions provided material for tape-recordings of the opinions of the inhabitants.

The charter of ARCN defined its objectives as follows:

1. To contribute to the educational improvement and the culture of radio listeners.
2. To organize, to that effect, radio listening in groups to be known as radio clubs.
3. To provide those responsible for the radio broadcasting programmes with better information about the audiences who will receive their programmes.
4. To enable radio listeners, under the direction of qualified organizers, to express themselves and to make known their opinions and suggestions regarding the programmes.

Prepared for the International Institute for Educational Planning by Robert Lefranc, Director, Centre audio-visuel, Ecole normale supérieure, Saint-Cloud, France, based on a research mission to the Niger Republic in March 1966

The distinguishing feature of ARCN is that the clubs were designed to be units of radio *production*, with activities centred on economic and social development, co-ordinated at the national level. These activities are seen as creating, through Radio Niger, a 'vast and real tribune of public opinion, thanks to which the rural populations can express by their own voices their comments and opinions —not excluding objections and criticisms—on the problems which closely concern them'. The use of radio was seen as particularly appropriate, because Niger is a country in which oral tradition prevails. But this also imposes more responsibility because 'the power of the spoken word resides as much in the way it is formulated as in the very content of the message expressed . . . the systematic collection of spoken statements by the Niger Radio clubs constitutes a quite specific formula'. The ARCN president has also stated that the clubs should be 'an education of awareness whereby adults become aware of problems in the personal, local, and national spheres, and through which they can integrate themselves effectively into the national community. The purpose of ARCN is to provide a very liberal and very democratized education, a very safe and sure ground of understanding between "complete" citizens'.

Thus the programme has three facets: educational, social, and civic. The approach is pragmatic. Membership is to be broad, representing both men and women of all ages and occupations, gathered together in groups of moderate size in which all can feel at ease. The club leaders must learn to know the members and what their living conditions are and be able to talk with them on their own terms, giving respect to their freedom of opinion.

The programme has received backing from the highest levels of national government. The president of the republic has stated that the clubs should facilitate 'real communication between the government and the whole of the population, the latter being conscious of participating in the decisions and the former being informed of the definite aspirations of the masses'.

ARCN also benefited from the twofold initiative of the French and Niger governments. In this connexion one must not overlook the efforts of Mr. Bernard Lucas, now director of Radio Niger, and Mr. Guy Robert, for several years secretary-general and principal leader of the radio clubs. Their individual accomplishments would not have been possible, however, if from the outset they had not received the support of the top authorities of Niger—in particular the officials now composing the executive committee and the many persons who agreed to support the experiment on the local scale.

The expansion of the programme, past and projected, is detailed in Table 1. In the early stages, the establishment of clubs was dependent upon volunteers coming forward to take the club-leader training course. This resulted in rather arbitrary location of the clubs and a very wide geographic dispersal. However, this was not without advantage, for it made possible important comparisons on effectiveness in different regions of the nation.

The expansion programme is now attempting to fill important gaps and, at

TABLE 1. Number of radio clubs operating, 1962–68

Year	Number	Year	Number
1962/63	14	1965/66	42
1963/64	17	1966/67 (projected)	55
1964/65	25	1967/68 (projected)	70

the same time, deal with material and linguistic problems. It has been found that the clubs were particularly effective in dealing with the needs of villages and small towns, but there were difficulties in setting up clubs in remote areas. One important factor was the length of time required for mail to travel to and from Niamey, the national capital. Also, attention has been given to creating a well-balanced distribution in the two major linguistic areas, Hausa and Djerma.

Greater emphasis should be placed on the qualitative rather than quantitative aspects of the programme. For this reason it is felt that seventy clubs will be sufficient. Club leaders are now recruited from candidates who must apply through the *commandant* of the *cercle* (district) who assesses them and makes a recommendation. This involvement of the district authorities helps to ensure that the leaders will have support from that quarter.

Besides the clubs which operate on a regular basis, mention should be made of those which operate only in the summer, mid-July to mid-September, the period of the so-called 'salt cure' when the livestock are driven to the salt licks. During that period, from 150,000 to 200,000 nomads assemble in the In Gall region. The radio clubs started programmes for them in the Tamachek language for the first time in 1965, the programme consisting of practical information, instruction in health and hygiene, and a bit of civic education. Forty monitors were specially engaged to handle the radio listening in the camps, to organize discussions and to record on tape the reactions. Although many of these hastily recruited monitors did not prove to be satisfactory, the experiment will be repeated with new methods in 1966.

Any extension to the country as a whole must henceforward work in harmony with the efforts of the rural promotional service and the literacy and adult education service, whose contact and reception systems and objectives have much in common with those of the radio clubs. This involves a definite problem of co-ordination.

Organization

ARCN was chartered under provisions of national law as a non-profit organization for non-formal public education. It is under the jurisdiction of the Commission for Youth Activities and Sports and receives technical advice from the General Commission for Mass Information.

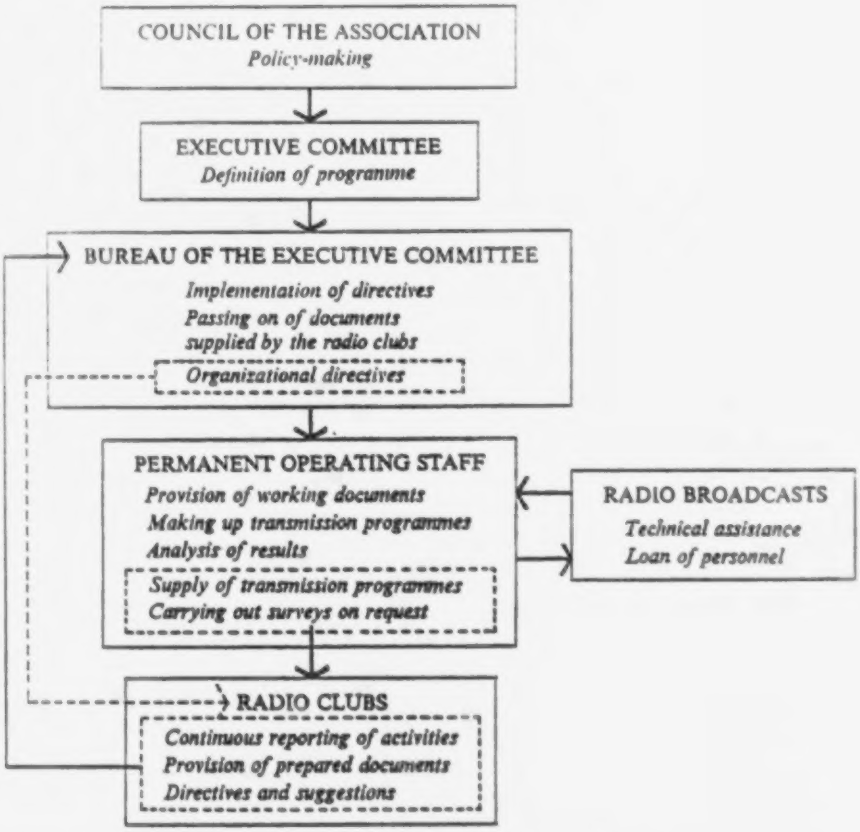
COUNCIL OF THE ASSOCIATION
Policy-making
EXECUTIVE COMMITTEE
Definition of programme
BUREAU OF THE EXECUTIVE COMMITTEE
Implementation of directives
Passing on of documents supplied by the radio clubs
Organizational directives
PERMANENT OPERATING STAFF
Provision of working documents
Making up transmission programmes
Analysis of results
Supply of transmission programmes
Carrying out surveys on request
RADIO BROADCASTS
Technical assistance
Loan of personnel
RADIO CLUBS
Continuous reporting of activities
Provision of prepared documents
Directives and suggestions

FIGURE 1. *Operational structure of the Association of Radio Clubs of Niger*

Administering the programme nationally (see Figure 1) are the council of the association, the executive committee and the permanent operating staff. The council is composed of government officials and political authorities and has the responsibility for general policy. The executive committee is responsible for administration, and includes in its composition such government agencies as agriculture, national defence, special health service against endemic diseases, public education, and the national radio service. In particular, the executive committee, taking account of the directives of the bureau, specifies programmes of action and selects subject-matter for broadcasts and discussions, and engages the permanent staff.

The permanent staff actually implements the ARCN programme. The secretary-general of the executive committee serves as the direct link between the administrative and operational levels of the organization. The secretary-general is also the co-ordinator, and he is active in forecasting, planning, control, and research. In particular, he maintains constant contact with appropriate agencies of the government, with the National Audio-Visual Centre, and with influential persons on both national and local levels who are interested in the ARCN effort. He is the editor-in-chief of the liaison bulletin for club leaders and supervises the distribution of materials sent to correspondents at both national and international levels. Generally, he oversees all aspects of the ARCN operation.

The radio programme director is responsible for the preparation of transmitted broadcasts, which includes the editing of the tapes sent in by the clubs, segments of which are integrated into broadcasts. He also participates in drawing up work for the club leaders and evaluating surveys. He has two assistant programme directors who help in the technical production of broadcast tapes, including studio control, and also handle translations and transcriptions as required, including supplementary interview instructions in the vernaculars.

The pedagogical adviser makes preliminary studies of programme themes (assisted by subject-matter specialists), drafts the inquiry and discussion guides, participates in the planning and conducting of broadcasts, is involved in continuous training and improvement of the club leaders and in the pedagogical preparations for training and refresher courses. He also assesses analytical reports and supervises the preparation of reference sheets and cards. He is assisted by a documents clerk.

Clerical and routine office tasks are performed by an accounts secretary, a typist, a messenger, and a driver.

At the local level, there are forty-three radio club leaders who are responsible for co-ordinating the club activities with the permanent staff. The association requires that candidates for this position have other regular employment, better-than-average education, and good reputation.

Initial screening of candidates for the leader posts is done with the assistance of local authorities and, often, of the party. Final selection is made at the end of a two-week session in club leadership. In 1962, fourteen leaders were selected from twenty-five candidates; in 1963, fifteen from twenty-two candidates.

The majority (52 per cent) are teachers, the others recruited from among agricultural monitors, medical workers and employees of the postal, telegraph and telephone service. They are young, at present ranging from 20 to 35 years of age. Originally the leaders were unpaid volunteers, but this resulted in an irregular output, and present policy is to pay modest fees based on the volume and quality of the individual's work.

Though most of the leaders are drawn from a middle-class section of the population, this is not the result of conscious policy. However, experience has shown that this group seems most likely to produce volunteers who are not only well integrated with the population, but also mentally alert and sufficiently well educated to take on this type of work.

The activities of the leaders are outlined in the discussion of the programme's procedures. Their preparation is strengthened by annual training periods during the general vacation.

Two weeks of training is held in late July/early August, beginning with a briefing on the problems of national economic and social development. The goals of the ARCN programme are then examined during sessions devoted to practical exercises and demonstrations. Some of the topics covered are: the nature and behaviour of a group; the function of leaders; how to conduct and enliven meetings; how to guide problem study; group discussion; and interviewing. The candidates are also instructed in the organization of the association. In the second week, the emphasis is on the radio part of the programme, again with more practical work than theory. The climax is the carrying out of a survey with tape recorders, on a subject selected by the trainees. The candidates also observe demonstration club groups set up in the Niamey area.

At the end of the training a four-part competitive examination is conducted. The areas covered are:

1. Selection of subjects for radio transmission and explanation of the selection.
2. Interrogation of the group on subjects which have been studied during the training period.
3. Expert handling of a radio receiver and of a tape recorder.
4. Presentation of a play reproducing a conflict situation which might arise in the work of a club leader, and a discussion of how to handle such a situation.

Several months later a refresher course is given for the new club leaders. Difficulties are discussed, remedies sought, and new actions decided.

All training is done by members of the permanent staff and educational specialists provided by the French ministry of co-operation.

The leaders are able to go on improving themselves by the use of working documents and the liaison bulletin.

Programmes

GENERAL PROCEDURE

The weekly programmes truly can be said to originate with the club members, who are not only listeners, but participants as well.

The executive committee sends to each club leader material for making surveys on sociological and educational subjects. This material includes instructions showing how the surveys can be executed in a practical way locally.

Upon receiving the material, the club leader calls a general meeting of the club members, explains the purpose of the opinion surveys, and shows them the material received, explaining the recommended procedures and indicating the amount of time they will take. The members, including the leader, then conduct the survey, in effect a poll of public opinion, in their area and at the agreed time report back for another meeting at which each reports the results of his questioning together with his own comments. This session is tape-recorded.

The club leader summarizes the information and comments obtained in a report which also describes the circumstances under which the opinion surveys took place. This report and the tape is then sent to the executive committee in Niamey.

The permanent staff members audit the tapes and retain those from which they will select portions to be edited into future radio transmissions of the programme *Carrefours* (Crossroads), broadcast in the two major native languages. This is done under the guidance of subject-matter specialists on the staff. About one quarter of the tapes are selected in this way.

The actual radio transmissions are listened to by the club members, following a procedure that the leaders have been trained to apply. The leader is expected to lead the discussion in such a way as to elicit the reactions and opinions of the members without imposing his own upon them. He is charged with clarifying the content of the broadcast and, for this purpose, is supplied with reference material from the executive committee. A report has to be filed by the leader on each club meeting, including a recording of any worth-while speeches or remarks by members which might be used in future broadcasts. The detailed written report follows a prescribed form and includes such information as the number of members attending, their reactions to the broadcast with main ideas and remarks, the physical arrangements of the meeting room and the quality of the broadcast signal. A synthesis of these reports is prepared by the permanent staff and is sent to the club leaders and to any persons appropriate because of official capacity or personal interest.

The objective of this apparently complex process is to establish a continuing exchange of views between the programme producers and the club members, and among members of the different clubs.

PREPARATION

The radio programmes, accompanying materials, and liaison bulletin are all prepared in Niamey. Tapes sent in by the clubs are monitored and translated into French and a composite recording is made of selected speeches and arguments. This is reviewed by the production team and a co-ordinator and suggestions are made regarding the final programme form.

There are three types of broadcast programme:

1. Programmes prepared in direct co-operation with the clubs, utilizing the results of a survey form submitted by a club leader. He does this with the assistance of his club members, making a tape recording which the operating

staff will integrate into the broadcast together with information supplied by experts to answer the queries raised by the club members.

2. A second category of programme consists of those which are of a definite educational nature, based entirely upon material prepared by specialists and involving no contribution from the clubs.
3. The *Carrefours* programmes constitute the third category, and these consist almost entirely of material submitted by the clubs.

The club leaders make use of the following auxiliary material prepared by the staff at central headquarters: a scheme for opinion surveys in future broadcasts; model answer forms to be used for the survey report; information sheets and discussion models for each broadcast; simplified monitoring cards; collections of photographs and drawings from various agencies for illustrating certain educational broadcasts.

PROGRAMMING

The programmes are on an elementary level, aimed at populations which are for the most part illiterate. Subjects and content are determined by the executive committee, taking into account the wishes, and requests of club members that have been forwarded by club leaders after interviews and surveys at the local level.

All subjects are more or less closely related to national development. The 1962/63 programme, for example, consisted of: twenty-seven transmissions on national development; fourteen composite transmissions resulting from programmes previously broadcast; five new broadcasts, two of which are 'Know Your Country' transmissions and three, basic education transmissions.

A good sampling of the subjects can be seen in the following list of topics in the 150 forty-minute programmes broadcast from 1962 to 1965:

1962/63. Child care, school attendance, the exodus from the farms, hunger, dowries, bush fires, Dahomey, Upper Volta, the witch-doctors.

1963/64. Teamwork and development, human investments, the public services, women and farm work, young people and farm work, the measles, loans, stock-raising, saving money, young people and marriage, the cattle plague, rural development, mobile medicine.

1964/65. The Republic of Niger since its independence, relationship between farmers and public employees, wells, the blind, truck gardening and marketing, investments in human beings, trees, temporary farming villages, vital statistics, taxes, poultry-raising, the protection of wild life, meningitis, the upkeep of the home.

In addition, there were about twenty folk-lore programmes.

Some of these subjects were covered by several different transmissions. Consideration has been given to producing series in such cases, but the procedure is not practical. Analysis of the club member responses to a questionnaire showed that part of the population moves about during the season. The only persons who would benefit from a continuing series would be those who did not leave the villages. These constitute a minority in many cases.

Instead, the programmes are scheduled in rhythm with seasonal changes of rural life: taxes are discussed during the collection period, diseases are discussed in the periods when they are most likely to be epidemic.

The educational philosophy of the programme's promoters is to 'start from the standpoint of life as it now is, explain it—and transform it', or to 'see, understand, act'. Actual participation in the information-gathering of the surveys is seen as a stimulus for the club members to examine conditions objectively, to seek for their causes and, finally, to envisage improvements which can be made to benefit themselves and their communities. The use of the information gathered through the clubs in the broadcasts is a further spur to this activity, with each broadcast programme offering practical perspectives under the added stimulus of comment and advice from experts and officials concerned. The end result is seen as helping the people acquire further knowledge, training them in the rational approach to problems, and serving as a stimulus to changes of behaviour and attitudes, particularly to taking the initiative in problem-solving.

The pragmatic character of this approach is emphasized in the association's pamphlet *Doctrine* (Policy):

1. It is essential that the surveys, radio transmissions and discussions shall be devoted to simple and limited subjects. Complicated and abstract subjects only cause confusion and the participants do not retain them at all.
2. The radio clubs should avoid developing among the population needs which the government is not in a position to meet within a reasonable period of time. Otherwise, this would only result in creating disappointment, discouragement and criticism of the radio-club effort itself.
3. Experience shows that there should be no hesitancy in repeating transmissions and discussions on the same subject, in order to give the participants enough time to question it, to reflect, and finally to act.
4. The radio clubs would like to deal with important subjects, but they must try to be both objective and cautious. They should gather all opinions. When a public service is criticized, the club should hear the service's point of view. In this way they will avoid sectarianism, and criticism for its own sake. The goal of the radio clubs is constructive. It is not their function to divide public opinion, but to instruct minds. In particular, they should not make it a habit to draw general conclusions from particular cases.
5. The radio clubs should approach all subjects in co-operation with other public services in order to support the efforts of each of these services.

As a general rule, ARCN does not re-broadcast its programmes. It is felt that every radio programme should be revised on the basis of the feed-back and especially of any criticisms made.

Some subjects are taken up again each year, but using transmission programmes which have been improved or even completely done over again.

EVALUATION

A matter of special concern to the ARCN authorities was the establishment of evaluation procedures to provide constant interaction between the operating staff, club leaders in the field and the members of the clubs.

The entire system is based on continuous evaluation and systematic feed-back, including refresher training for leaders, survey results submitted on tape recordings and written forms, monitoring cards, listening-session reports, discussion reports, and the monthly activity report to which the club leaders must attach an account of the condition of their equipment. The radio-club leaders in the field also exchange an abundant correspondence with central headquarters. Lastly, a mimeographed liaison bulletin, issued each month, constitutes an additional link between the club leaders and the permanent staff.

Mention should be made of the final survey conducted each year based on questionnaires sent to radio club leaders. In 1965, for example, seventeen questions were asked of eighty-five persons in ten different radio clubs. The questions concerned such points as the composition of the listening group, interest in the subjects of the transmissions, opinions about the transmissions, value of the discussion after each transmission, technical quality of the monitoring, operation of the radio club, reasons for the absence of members, reasons for attending, discussion after the radio-club session, reason for the non-participation of a part of the population, relative value of a small or a large group, whether or not there was embarrassment when speaking into the tape recorder, results in the village of the radio-club effort, advice heard in the radio programmes and put to good profit, suggestions for improvement, desirable subjects for radio programmes and reactions to the idea of possibly discontinuing the radio club. Also, in 1964, the permanent staff arranged for a specialized agency, Synergie-Roc, to make an analysis of interviews held in the Niger Republic, with different types of persons concerned with the radio clubs, an analysis which will be referred to again in the conclusion.

Surveys are carried out by members of the permanent staff on their tours of all the regions. The reports of these surveys lead to immediate action and improvement in the programmes, and sometimes even in the management and the handling of the radio clubs themselves.

The ARCN authorities complain that they do not have sufficient personnel and funds to set up a more systematic control organization. They would like to add a psychologist and a sociologist to the permanent staff for this purpose.

Attitudes toward the experiment

Attitudes toward the radio-club experiment become known through the numerous feed-back procedures which we have mentioned, but special importance is attached to the contribution made by the annual final surveys and the investigations conducted by Synergie-Roc.

At the outset many public officials frowned upon the establishment of the radio clubs, sensing possible competition. They also suspected that they would become breeding places of anarchy, since the instruction given by ARCN might well contradict the directives which they themselves were called upon to issue and to apply.

They seem to have been gradually reassured, very largely by the involvement in the radio-club programme by the top authorities of the country, some of whom are members of the council of the association, and by the executive committee. They also seem to have realized that the system of local democracy encouraged by the radio clubs would in the long run go hand in hand with their own effort.

The attitude of reluctance seems to have been keener and harder to overcome in the case of the party leaders, who, in many cases, felt that the establishment of this new local 'cell'—the radio club—constituted direct competition with them. They feared that the club debates and discussions might divert members from the objectives set by the party. However, the promoters of the radio clubs made every effort to involve the party representatives themselves in the organization of the local radio club. Henceforward, the party leaders were consulted in so far as possible in the selection of the local radio-club leader, and a number of them even agreed to act as club leaders themselves. This is an especially favourable situation, because the party organization assembles and enrols members and occasional visitors for the radio clubs.

There was also some suspicion on the part of other local authorities engaged in work of an educational nature, including some agricultural monitors, health workers and teachers who were not happy to see the appearance of a new system which might steal the show from them. Gradually, however, this opposition has declined.

On the one hand, most of them have realized that the radio-club effort supplemented their work, but did not duplicate it—a fact which raises again the problem of organic co-ordination of educational structures, in the broadest sense of the term, on the local scale, a problem which will be referred to again later. On the other hand, many instructors—including public school teachers, literacy instructors, rural development workers, etc.—have themselves agreed to become radio-club leaders.

The attitude of the village chiefs often plays a decisive role in the creation and especially in the attendance and maintenance of a radio club. The village chief very often loses interest in the radio club, and this has an immediate and unfortunate repercussion on the population. One of the answers most commonly given when members who have been repeatedly absent are asked why they do not attend is that the village chief himself does not come.

Remembering that at the outset the radio-club leaders were all unpaid volunteers, their attitude can therefore be considered, in principle, as favourable to the experiment. Experience showed, however, that a large number of them gradually gave up the task, giving various reasons such as lack of real contact with the population, difficulty in obtaining real discussion, conflicts with other local educators, lack of support from local authorities, conflicts with members of the party, and overwork.

The membership of the radio clubs reflects to a very large extent the social structure of the Republic of Niger. The statistical figures for the 1964/65 season bring out some interesting facts.

A study of enrolled membership up to 1964/65 reveals an increasing interest on the part of prominent persons (2.23 per cent of the total in 1962/63 and 6.90 per cent in 1964/65), declining interest of public servants or civil service employees (dropping from 20.08 per cent to 10.45 per cent), and increasing interest on the part of farmers (rising from 30.15 per cent to 36.08 per cent). There was a curious fluctuation in the number of housewives, for which no explanation has been discovered.

Table 2 gives a good idea of the participation in the activities of the radio clubs by the various social and occupational categories. It will be noticed that the proportion of persons engaged in agriculture constitutes more than one-half of the radio listening groups.

Among this diverse membership, it is difficult—even by means of definite inquiries—to determine constant factors in attitudes. It can be said, however,

TABLE 2. Participation in radio-club activities, 1964/65

Category	Inquiries	Radio listening
	%	%
Chiefs and leaders	9.0	5.5
Public service employees	10.8	6.0
Tradespeople	5.3	0.6
Craftsmen	8.2	15.0
Farmers and stock-breeders	37.4	52.5
Marabouts	1.2	6.2
Witch-doctors	3.7	1.5
Semi-skilled workmen	2.4	0.5
Drivers	0.8	0.1
Labourers	2.4	—
Orderlies, doormen, domestics, etc.	0.8	1.4
Housewives	10.1	7.1
Clerks	0.2	—
Unemployed and miscellaneous	3.5	3.5

that when the radio clubs were first started there was some reluctance on the part of a large portion of the population. Especially there was an attitude of distrust, very largely due, it must be admitted, to the rural character of the population whose reactions were not very highly developed. This is seen in the fact that many of them refused to speak, partly from shyness, but mostly for fear of having their ideas taken down and, worst of all, recorded by a machine. 'They are afraid to talk; they think they will say wrong things which might cause them trouble.' 'They are afraid to show their disapproval of the political authorities.' 'They do not want to get mixed up with the majority because of their political opinion.'

Difficulty in expressing oneself is often due to a fear of being accused. A report that is often heard is: 'Some of them simply cannot answer. They are ashamed. They do not come back.' Many participants, especially peasants, have yet to be convinced that any working hours they devote to the radio clubs is not time lost. While many of the adults prefer the radio club to the literacy classes, which are sometimes a source of shame for them, the young people are conscious of a certain element of competition between the literacy course and the radio clubs. They are often heard to say: 'The old folk don't like going to meetings all the time.' Being tired is often the excuse given by the farm workers for not attending the radio clubs. The loss of interest on the part of the leaders of the village —as mentioned above—is an essential factor in the dropping out of many.

Nevertheless, after these reservations, there can be noted a general interest in things new, much co-operation from those up to the age of 40, a kind of rivalry between certain strata of the population, and the unreserved support of many local authorities and public servants concerned.

It is quite evident that in the interest of the radio-club experiment itself, a more systematic and more scientific study of the evolution of attitudes could well be undertaken.

Equipment

The central headquarters utilizes the facilities of Radio Niger for final recordings, but has its own field recorder and two editing and splicing recorders. It also has a Land Rover available.

Each club is provided with the following equipment: a transistor radio receiver powered by three 1-volt batteries; a portable, transistorized, battery-powered tape recorder with two-speed single-track operation capable of a playing time of ten minutes and equipped with amplification to four loud speakers with a total output of 1 watt; a microphone; a set of twenty magnetic tapes; a paraffin pressure lamp.

All equipment is imported. Initially, repair and maintenance was handled by

Radio Niger's technical service, and later on an overtime basis by technical personnel of the Niamey Air School. At present, an electronic technician of the National Audio-Visual Centre is doing this work.

The equipment suffers, particularly when transported, from the very rough conditions. Special packing of expanded polystyrene has been utilized, but has not eliminated this problem.

It is felt that the radio sets are quite satisfactory, but the use of home-made tape recorders, adapted for the purpose, has caused problems, since they are too fragile and too susceptible to dust penetration. Specifications are now being worked out for an 'ideal' tape recorder.

The ARCN central headquarters has been housed in two offices in the Radio Niger buildings, and the studios of Radio Niger are also used at certain hours, as has been indicated. In April 1966 the headquarters was moved to four offices in the National Audio-Visual Centre.

Financing

BUDGET

In 1962/63, the budget of ARCN totalled 1.4 million CFA francs. This did not include a number of elements such as the salary of the co-ordinator, the value of the contribution of the personnel of Radio Niger, and the vehicle which was assigned.

During the succeeding years, the budget increased as follows: in 1963/64, 7.2 million CFA francs; in 1964/65, 16.7 million CFA francs; and in 1965/66, 19.3 million CFA francs.

The budget is made up of funds from the following sources:

1. A personal subsidy from the president of the Republic.
2. The actual budget appropriation (almost the entire total in 1964/65).
3. Exceptional subsidies occasionally granted—for example, in 1963/64, a sum of 5 million CFA francs by the French government, which was followed by a further request in 1965 for 10 million CFA francs.
4. The membership fees, the membership card being issued for 100 CFA francs each year. At the time when there was a total of twenty-five radio clubs, the number of members was approximately 700. The income from the membership fees is therefore small, chiefly owing to the fact that most of the participants in the radio clubs do not take out membership cards. In fact, the reports of the radio listening sessions show that they were attended by about 10,000 persons in 1964/65.

Most of the equipment was financed for the first two years by the French ministry of co-operation and subsequently from the association's budget.

For 1965/66, 700,000 CFA francs from the budget have been devoted to covering costs of the training. This appropriation covers a part of the travelling expenses of the participants, their living costs during the course, and material expenses. The French participation, on the other hand, particularly in the form of instructors, is financed directly by France.

RECURRENT EXPENSES

These consist of the salaries of the permanent operating staff, travel and transportation costs, and fees and bonuses paid to radio-club leaders in the field.

The ARCN policy for compensating the club leaders is based on fees that are virtually automatic and bonuses for productivity and results. The mixed solution adopted in 1964/65 seems to be giving satisfactory results. This includes a basic fee of 3,000 CFA francs per month, monthly bonuses for regularity in sending in survey reports (1,000 CFA francs), and other bonuses added for high-quality work.

Results

The radio-club leaders themselves agree that their effort has not yet passed the experimental stage. It is therefore difficult to draw up a definite balance-sheet of results—the more so since these results cannot be expressed in figures. It is even more difficult to distinguish the results obtained by means of the radio clubs from those which are due simply to the total volume of the radio transmissions, and still more from the total efforts of other agencies acting upon the same people.

Although the results cannot be actually measured, it is possible to estimate the effects of the radio clubs through the numerous reports and documents supplied by the association headquarters.

The following is quoted from the analysis of interviews with different categories of persons concerned with the radio clubs in the Republic of Niger carried out by Synergie-Roc for ARCN:

'The radio clubs are making a very strong impact on the native populations. They are looked upon more as a means of training and improvement than of information.

'This training and improvement has the following features: (a) the discovery of radio as a means of communication; (b) the advantages of such a means of expression for village people little accustomed to acting and communicating as a group, and of giving people who do not know how to read or write the opportunity to express themselves and to be listened to by others; (c) the growth of contacts between villages and between persons in different walks of life and the making of new friendships with a sense of belonging to the national community and the cultivation of a readiness to co-operate; (d) the opening of a window upon the outside world; (e) the introduction to learning and not simply to listening, and with it the acquiring of new knowledge; (f) the awakening of intelligence, heightening of the feeling of being alive, and liberation from fear.'

There are other results which can also be credited to the radio clubs:

1. The establishment of a psychological climate favourable to the assimilation of the educational content of the radio transmissions.
2. Changes of behaviour and attitude among the local people, leading in many cases to such definite actions as an increased use of the dispensary, some check on witch-doctors, activities in village squares, the setting up of women's committees to ensure that mothers follow the rules of hygiene in the care of their small children, an increased use of the services and advice of veterinarians and medical and health workers, the organization of a fire-fighting service, an increase in purchases of agricultural equipment, and so on.
3. The setting up of a proper cultural centre around the radio club in some villages where the club leaders are particularly capable.
4. Strong support for other efforts of human improvement, such as the rural-development programme, the literacy campaign, etc.
5. A participation that makes the programmes of the national radio broadcasting service richer and more realistic.
6. The opportunity to discover prospective local leaders through the new means of expression that are available to persons who are intelligent, energetic, and socially active.

However, another result of the investigation made by Synergie-Roc tended to show that there may be a lack of relationship between the living experiment taking place in the radio clubs and the present structure of native society, as a result of too vague an understanding by all categories of persons interviewed of the roles of government, the local authorities, and the radio-club leaders.

The persons apt to be most keenly aware of this defect are those who act as a hinge between the population and the powers that be—in other words, the local authorities and the radio-club leaders.

Over and above the difficulties of a technical or sociological nature which have already been mentioned, this defect could be the essential factor in the major problems that the radio clubs have to face, which are as follows: (a) the negative attitude of government employees in the villages; (b) the temptation of the representatives of higher authority to abstain from participating or else to attempt to put the radio clubs to their own service—instead of placing their authority at the service of the radio-club development; (c) lastly, the heavy work load thrown on the club leaders by their need to reconcile radio-club activity with their professional duties.

Conclusions

It is a moot question whether or not the association's charter can best enable the radio clubs to attain their goals. Some think that it would be advisable to convert ARCN into a department or service of Radio Niger, but the majority of those interviewed opposed any such development. They believe that the radio clubs would no longer have the same appeal to volunteer workers who have proven their value. As government employees, the club leaders would feel much more controlled and would lose freedom of action which is essential in their work. Further, it would not be quite so easy a matter to ask for aid from other countries, and, finally, the radio-club budget would be an unnecessary burden on the financing of Radio Niger.

The radio-club experiment seems to show that these clubs represent a means of human advancement among the native populations of the Republic of Niger, but it is an effort which is limited and will remain so, on the basis of the planning and action of the club leaders themselves. The influence of the radio clubs is therefore a limited one both in time and in space.

Nevertheless, this experiment is capable of playing a decisive part in future development, if the following positive aspects are fully taken into account:

1. The exploration of an effective means of human advancement.
2. The creation in rural areas of real tribunes of public opinion—the best tools for the establishment of democratic structures.
3. The creation of a mass-information circuit in which the rural populations are not only consumers, but also producers.
4. The testing of an elaborate and efficient feed-back system at various levels, making by a variety of methods a continuous evaluation of results and of impact on the people.
5. A systematic decentralization of mass information services, a means of offsetting the monolithic tendency inherent in the political structure of modern states.
6. The trying out of new forms of radio expression better adapted to the country.
7. A useful and efficient model for the eventual establishment of a television-club network and of a television adult-education system.

The current work of the radio clubs could be considerably improved, however, if the following recommendations were put into effect:

1. An increase in the number of programmes using the radio-club formula, even if that were done at the expense of other programmes in the Radio Niger broadcasting schedule.
2. A better selection of subjects for the transmissions and preparation of them in closer consultation not only with the native populations, but also with the other national services concerned with human advancement.
3. An increase in the size of the staff at Niamey, in order to make it possible to produce more and better programmes and to make better use of the tape

recordings and the written data received from the clubs, to answer complaints from some clubs that their contributions are not used to a sufficient extent in the programmes transmitted and in the official reports.

4. Supply of technical equipment better adapted to local conditions.
5. Better local leadership.
6. Improved methods for real and better-balanced participation by the different social categories in each radio club; too often the club leaders ask officials and prominent persons to do the talking instead of regularly making it a point to encourage more obscure members of the village to speak, who habitually remain silent.
7. An all-out effort to ensure greater regularity in the operation of the radio clubs and a better rate of attendance by the people.
8. Closer co-operation on both the national and the local scale with the other agencies concerned in social and human advancement, including the sharing of canvassing and reception facilities whenever possible.

The radio-club leaders are aware of the problems and are themselves seeking to work out a solution, which must necessarily be of a political nature. The development of the radio clubs ought therefore to follow the direction indicated by the promoters of the association, as it was outlined in issue number 9 of *Tendances* (Trends) in 1964:

'On the organizational plane, it would not be improper to predict that there will be some readjustments, affecting even the top levels of the association. The present structure bears the mark of the period that witnessed its birth. Since that time, the policy of the Niger government in the sphere of human advancement has been more clearly defined and has led to the creation of services among which problems of co-ordination have arisen. In fact, in a developing country it is essential that there be harmony in this field of activity. Duplication of effort in the programmes must be avoided. The total effort depends upon a supply of trained workers, drawn from the same pool, that is not inexhaustible; the sources of funds are also often the same. It is therefore worth envisaging organic combinations, which would be facilitated by a common charter.'

5.9. Radio Rural Forums and Radio in Support of Mother-Child Care Programmes

by J.S. Yadava

from: The Media and Adult Education: Indian Experiences

in: H. Cassirer, Co-operation Between the Media and Adult Education Bodies. UNESCO/ED/LAR 1985, pp. 8-13

Since independence the government and the media planners have been concerned about the very limited extent to which the mass media reach rural people and the less privileged sections of the urban areas. To overcome this, at least partly, the central and state governments have been providing community sets and attempting to organize community listening in the form of radio rural forums and charcha mandals (discussion groups).

Radio naturally occupies a key place among the mass communication media. Nearly 6.3 per cent of broadcasting time is devoted to programmes for farmers and rural audiences. All AIR stations broadcast such programmes for between 30 and 75 minutes daily. To meet the specific demands of farmers, a daily programme on agriculture is broadcast for 45 to 55 minutes from 61 farm and home units located in different stations. Weather bulletins are broadcast every day for the benefit of farmers. To impart skills and knowledge about new agricultural practices, a syllabus-oriented special programme for farmers is broadcast from 31 AIR stations. These AIR farm schools provide step-by-step guidance and instructions to 'enrolled' farmers which are backed by printed instructional and information material.[1]

In order to assess the role of radio in promoting adult education in India, two case studies may be considered: (i) radio rural forum and (ii) radio for mother and child care. As stated earlier, adult education is used in the broad sense of informing and eudcating the adult population on a variety of subjects directly concerning them.

Case I: Radio rural forums

In the light of the Canadian experience of radio forums, India in 1956 started rural forums on a pilot basis in the vicinity of Puné in Maharashtra State. The project was a co-ordinated effort between Unesco, the Central Government, All India Radio and the State Government of Bombay (now Maharashtra). Early in December 1955, the Director-General of AIR held discussions with representatives of the Departments of Agriculture, Education, Information and Development of the Government of Bombay together with AIR officials so as to prepare a comprehensive work plan for administrative and programme requirements. The work plan comprised four major tasks: central direction, field organization, programme planning and presentation and assessment. For each of these aspects, a committee was appointed to look after the details of actual operation and implementation.

The policy decisions and the direction were made the responsibility of a central committee under the chairmanship of the Director-General of All India Radio. The committee included representatives of the Departments of Development, Agriculture, Publicity, Education, and Health of the Government of Bombay; two non-official experts; and the head of AIR stations at Bombay and Puné. The Field Organization Committee was responsible for such operations as the selection of the forum villages and organizers, drafting general instructions, etc. This committee consisted of Directors of the Departments of Agriculture, Health, Education, Publicity; the Deputy Development Commissioner and the officials of the AIR station at Puné. The Assistant Station Director, Puné, was chairman of the committee which appointed one chief organizer, five district organizers and forty part-time organizers drawn mainly from the relevant departments such as Agriculture, Education and Publicity. A committee of agricultural and rural development experts having an intimate knowledge and understanding of village life and its problems was appointed to assist the AIR staff in the planning and production of the programmes.

In all, 144 radio farm forums were organized in as many villages spread over five districts around the Puné station. In each of these, a radio forum of twelve to twenty members, mainly farmers but drawn from different socio-economic groups was set up with a convenor. A special half-hour programme for the forums was broadcast from Puné station twice a week over a period of ten weeks. Emphasis was on practical aspects of rural life and the encouragement of active discussion among forum members. Members assembled about half an hour before the broadcast time when the convenor offered preliminary comments while afterwards members of the forums discussed the content of the broadcast, sought clarification and raised queries and doubts; the report was forwarded to the Puné station, which in turn passed the queries and observations to the concerned departments for clarification. In each programme, part of the time was devoted to answering questions and clarifying various points raised by the forums. There was continuous feedback from the forums to the station and interaction between the broadcasters and the recipients of the message. A systematic evaluation revealed that it was a very effective experiment in the utilization of radio for communicating with village people.[2]

Following on this pilot programme, the idea of radio rural forums was extended to many other areas. In 1969, it was claimed that 0.2 million radio rural forums were operating in different states and union territories. However, with the advent of the transistor era, the number of private sets increased rapidly so that the utility and relevance of the community listening scheme were queried. The Government of India discontinued the scheme for subsidizing community sets in the fourth five-year plan beginning in April 1969. As a result, community listening lost its official character in most states and many of the forums became inactive and even ceased to exist. Today there are about 22,504 rural radio forums and 42,101 *charcha mandals*, the degree of activity and enthusiasm varying. Additionally, there are marked regional variations in the distribution of community sets. Tamil Nadu and Maharashtra States alone account for nearly half the total number of community sets in the country while elsewhere the number is minimal.

Systematic research and evaluation studies over the years clearly indicate that radio has to some extent been effective in the area of agricultural broadcasts, with information pertaining to agricultural practices being effectively communicated to farmers. Although most studies have repeatedly stressed the importance of opinion leaders in the communication process in rural areas, the very fact that high-yield varieties of seeds are popularly known as 'radio seeds' and the fertiliser mixes as 'radio *khad*' in villages in many parts of the country indicates the impact of radio in this area. While further dissemination of agricultural information does take place through interpersonal communication, in which opinion leaders are important links, radio nonetheless forms the initial source of information for the opinion leaders themselves.

The success of radio rural forums in 1956 and some of the better organized forums and *charcha mandals* even today, as well as of the 'farm schools' and some other area-specific agricultural programmes, proves beyond doubt the value of radio as a means of communication and education of adults in rural India.

To what extent, however, should this success be attributed to any 'systematic co-operation' between radio and adult education?

Radio forums were created at the initiative of AIR in co-operation with the administrations concerned with rural development. They were not the emanation of, or attached to, an existing local institution or association. But in independent India, the State assumed increasingly greater and more direct responsibility for promoting development at all levels and in all sectors, including rural development. Improving the condition of the vast multitude of rural people has been the major concern of India's planned development. Political leadership provides the broad policy guidelines and perspective to which the planning commission give concrete shape in the form of five-year and annual plans. The administration at various levels helps in the implementation and execution of these plans. Generally speaking there is a lot of give and take in terms of ideas and suggestions so that in actual practice it is often difficult to say who actually initiated a particular programme.

For instance, the government representative obviously 'came to know' about the Canadian experience and Unesco's desire to try the radio rural forum experiment in other cultures as well. In a way, the initiative to try it out in India came from Unesco followed by the concerned ministries and officials. The Central Government having approved the proposal entered into a formal contract with Unesco. For actual operation the Ministry of Information and Broadcasting (I&B) as the ministry in charge of AIR was given responsibility for the implementation of the radio rural forum project in selected areas in India. AIR then decided to conduct the project in Puné District and sought the co-operation of the administration concerned with rural development so that in a sense it may be claimed that the initiative was that of AIR. Because the project was sponsored and financed to a significant extent by the Central Government, the state administrations willingly and even enthusiastically co-operated in the radio rural forum project. In this sense, it could be said that the state administration was merely on the receiving end as were local officials and people further down the line. The villagers had virtually no say in the entire planning of the project although they occasionally made verbal observations through the link officials. The success of the project can be attributed to the responsiveness of the latter and their role as adult educators. Adult educators or animators are the key to the success of communication support for development projects.

Listening groups were specially created for farm broadcasts and were not part of other existing activities. But there were no development-oriented groups or forums in the villages whose age-old institutions were for social and cultural purposes and largely designed to maintain social norms and the status quo, hence the need to create forums for listening to farm radio broadcasts. Their continuation, however, depended upon their usefulness. As it was an administration-sponsored activity it could not survive once the link officials lost interest after the pilot phase. For sustained interest, the listening to radio broadcasts should have been linked with other activities and purposes. To be effective there must be an interaction between the mass media and various other modes of communication, especially with interpersonal channels of officials, adult educators or animators.

Case II: Radio in support of the mother-child care programme

The planning and management of child care occupy a prominent place in India. In 1974, a National Policy for Children was laid down which emphasized prevention and promotion in respect of the child's and the mother's health. A major programme, the Integrated Child Development Service (ICDS) was launched. Under this programme, anganwadies, balwadies (child-care centres) have been set up for rural and other deprived sections of the population. The necessary communication support is being provided on a wide scale.

Recently, however, a more systematic and organized communication support for the ICDS programme has been launched through radio. The broad pattern followed is that of radio rural forums. Its objective may be stated as follows:

> To inform, educate and motivate nursing and expectant mothers to make best use of the services available under the ICDS and adopt new values and practices for their own better health and that of their children, thereby ensuring a happy and more satisfying family life.

The programmes also have two subsidiary goals:

> To sensitize broadcasters and others associated with the programme about the problems of women and children, especially those of rural and deprived sections of the society;
>
> To enable the field staff of the governmental and non-governmental organizations engaged in the delivery of services under the ICDS programme to make the best possible use of the communication support provided by radio.

In the planning and execution of this communication support programme, a number of ministries, departments and organizations have joined hands. The Ministry of Information and Broadcasting, the central Ministries of Education and Social Welfare, Health and Family Welfare, and Rural Development and their counterparts in different states, the UNICEF Regional Office in New Delhi and various voluntary agencies are co-operating. To give concrete shape to the communication support through radio a number of radio workshops in maternal and child care were organized in collaboration with UNICEF. So far, five such workshops have been conducted in different states. These involved AIR stations, the state governments in whose jurisdiction the AIR station is located and UNICEF. Some idea of the co-ordination and involvement of different organizations and agencies may be obtained from a glance at the details of one such workshop.

In a five-day radio workshop on mother and child care organized by the Rohtak AIR station in Haryana, representatives of AIR, the Departments of Social Welfare, Health and Family Welfare, Agriculture and Rural Development and UNICEF participated. The workshop was inaugurated by the Minister for Social Welfare, Government of Haryana, and the keynote address was delivered by the Additional Director-General of AIR, New Delhi. The association of the concerned Minister of the State and senior AIR officials reflects the significance of the workshop as well as of the programme itself. Participants included representatives of the Farm and Home Unit of AIR; the Department of Social and Preventive Medicine, Medical College, Rohtak; the Home Science Department of the Agricultural University, Hissar; the Director and Joint Director, Department of Social Welfare; the State Health Co-ordinator; and the Chief Medical Officers of the Rohtak and Mohindergarh Districts of Haryana. In addition to these high-level executives, field staff of the Health and Social Welfare Department of the Haryana Government also participated, including three anganwadi supervisors, four anganwadi workers, two ANMS, trained dais, and two community health workers from different districts in the state. The participants discussed the various dimensions of mother and child care, the focus being on the need to provide communication support through radio to the ICDS programme, and visited a number of anganwadies to study the problems of mother and child health in actual field situations. On the basis of the discussions and visits, a list of likely subjects for radio broadcasts was prepared, twenty-six being chosen by the broadcast subject selection committee as priority themes. A well-integrated time schedule for producing and broadcasting twenty-six radio programmes was prepared and the weekly programmes were launched on 4 January 1984.

To make the best use of the communication support, organized group listening to the mother-child care programmes by twelve to twenty women in each *anganwadi* in the selected development blocks has been arranged, the selected *anganwadies* having been provided with transistor sets through the help of UNICEF. Those in charge of a particular *anganwadi* are responsible for organizing listening by nursing and expectant mothers and elderly women in the village, for discussing the theme before and after the broadcast, clarifying doubts, and forwarding reactions and queries to the AIR station, Rohtak, for discussion in subsequent broadcasts. To supervise the work of *anganwadies*, a circle supervisor covering five to six *anganwadies* has been appointed while supervisors have been provided with mopeds from the UNICEF grant.

Field staff were not exclusively on the receiving end inasfar as they communicated their concerns and problems in three ways:

- through letters from listeners (letters for which stamped and addressed letter forms are provided to the listening posts are often written in consultation with the field staff);
- by communicating their problems to the supervisory staff when they visit the villages;
- by sharing their experiences with senior staff in official meetings at block and district levels.

Subject matter specialists are actively associated with the production of the programmes. The general pattern of this thirty-minute weekly programme, broadcast every Wednesday from 12:30 p.m. to 1:00 p.m., consists of specialists discussing the subject matter of the broadcast for fifteen minutes, while five minutes are devoted to answering questions and problems raised by listeners, five minutes to entertainment (folk songs especially composed around the broadcast theme) and five minutes to summarizing the talk and highlighting its main thrust.

In order to get some idea as to the extent of organized listening to the programmes and of their influence, a number of *anganwadies* in the Rohtak and Mohindergarh Districts of Haryana were investigated. It is difficult to measure the impact in terms of actual change in attitude and behaviour but, on the basis of field observations, it may be said that the programmes are listened to almost regularly by a fairly large number of women at the *anganwadies* who often discuss the issues raised. The women usually have no difficulty in understanding the programme, its major thrust and specific recommendations. This was also reflected in the large number of appreciative letters received by the AIR stations, Rohtak (1,070 up to the end of April). Most of the letters are from *anganwadies* where listening has been organized, only thirty-four having been received from individual women in villages where listening was not organized. The utility and interest of the programmes is further demonstrated by the fact that more than half of the letters (567) have raised specific questions and have sought further clarifications. A fair number (166) also offered specific suggestions. A substantial number of letters simply praised the programme, only 76 being adverse.

Another indicator of the impact of the broadcasts is the increase in the number of women deriving benefits from the services offered by the *anganwadies*. This is clear from the data concerning one of the *anganwadies* in a village in the Rohtak District (Table 1). Similar trends could be noted in some other *anganwadies*.

Table 1. Women Utilizing ICDS, Anganwadi No. 26, Village Kultana

	January	February	March	April
Nursing mothers	16	18	25	20
Expectant mothers	8	10	20	30
Others	4	4	8	14
Total number of women benefitted	28	32	63	64

It emerges that the radio is being profitably used in support of the mother-child care programme. This media project is a joint and co-ordinated effort by AIR and the experts concerned. The programmes are of the syllabus type, starting with a monthly cycle on pregnancy to child birth, covering care of mother and child, common problems, diseases, nutrition and preventive measures, etc., the series ending with a general programme on cleanliness. A booklet listing the topics of twenty-six programmes, giving guidelines to experts and the programme producers, highlighting the thrust of the message and suggesting possible questions from listeners for more meaningful group discussion, has been distributed to the anganwadies and others concerned for information and guidance. All indications are that the programme has been fairly well-organized and co-ordinated and that its impact is encouraging.

However, years of planned developmental programmes have inadvertently led to heavy 'dependency' upon outsiders, mainly the government officials, instead of self-reliance, local initiatives and confidence on the part of the people. The latter do not as a rule look upon government-sponsored programmes as their own and hence their impact and achievements are not entirely satisfactory. Only five minutes out of a thirty-minute programme are devoted to letters. Both appreciative and critical letters are read, but the emphasis is more on letters asking for specific clarification or additional information. As a general observation it may be noted that the criticism in government-controlled media like radio and TV is not always 'free' and hence the credibility and identification gaps continue to beset the development planners and executors. This is a reflection of the overall climate prevailing in our society.

The pattern of initiatives in the use of radio for ICDS-AIR is broadly the same as in the case of radio rural forums. The idea seems to have emerged in UNICEF then to have been picked up by the concerned ministry which in turn sought the co-operation of the Ministry of Information and Broadcasting and AIR.

5.10. Conclusions: Innovative Contributions of the Radio Santa Maria Model to Lifelong and Radiophonic Education

from: Robert White, An Alternative
Pattern of Basic Education:
Radio Santa Maria. UNESCO 1976,
pp. 96-102

X. Conclusions: innovative contributions of the Radio Santa Maria model to lifelong and radiophonic education

A key motif in discussion on lifelong education is the revitalization of the perception of the human personality as always capable of new learning experiences. The present study has centred around the question of how educational institutions can respond to the growth needs of individuals all through their lives. The Radio Santa Maria model of basic education has taken many ideas from institutions in Latin America and other parts of the world, notably the ECCA system in the Canary Islands, and would seem to have caught a number of important dimensions of this responsiveness to current educational needs. This concluding chapter is a reflection on what appear to be the innovations in education and how this alternative pattern has developed an institutional structure embodying the five goals of lifelong education.

1. *Universalization (democratization) of educational opportunities*

An important pre-condition for lifelong education is the capability of institutions to determine the specific educational needs of a particular population segment and then rapidly to develop the curriculum, educational methodology and communication techniques which are necessary in order to realize this educational opportunity. The experience of Radio Santa Maria indicates that it is first necessary to establish what may be the priority educational needs, the motivations and the aspirations of a particular population segment. Radio Santa Maria decided that, although it responds to other groups with other programmes, one of the major priority needs was an upper primary and intermediate level education for young adults, especially in rural communities, whose avenues toward technical and professional positions and rural leadership were blocked. The personal aspirations of many thousands of talented youth were without response because education was conceived of in terms of classrooms and teachers, and it was impossible to expand such a system in rural areas. Even in towns and cities, the severe lack of funds of the official adult education programme for teachers was a limitation. In this context the official certificate, which is the key to entering secondary schools and obtaining professional employment, was a central motivation, so that the programme had to be designed in co-ordination with the official curriculum of the Secretariat of Education.

Often, one of the major obstacles to extending an educational opportunity rapidly is that, although its methodology may be excellent, the original design is economically so inefficient and requires so much special investment or training of personnel that, as it expands, there are immediate limitations and only a few benefit. Radio Santa Maria has been especially careful in designing a system of administration and supervision which is economical as it expands. Each possible innovation in the programme is analysed to determine if the marginal increase in benefits, in terms of levels of academic achievement, etc., justifies the increased expenditure. By relying on a central records department which receives systematic weekly and monthly reports from field teachers, supervisors become supplementary and have their work more specifically defined for them. In this manner one supervisor can quite effectively supervise 75 sectors with a student enrolment of 3,000 to 3,750. At present, with a total enrolment of approximately 22,000, Radio Santa Maria could exercise adequate supervision and even provide training courses for field teachers, with six to eight field supervisors. This contrasts with the approximately 55 supervisors which the conventional classroom method requires primarily for the night school programme of the National Office of Adult Education in the Dominican Republic.[1]

Among Latin American radiophonic schools, the Radio Santa Maria model has been somewhat unusual in asking for a monetary contribution from the students to cover the field teacher expenses and some of the expenses of the printed and broadcast learning instruments. Some educational planners may be hesitant about introducing such a system of student fees, because it may be an obstacle to some potential students, and also because it is a type of motivation which may, in the opinion of some, conflict with the overall goals of community and class service. Apart from the fact that Radio Santa Maria is a private institution and must find its own support, some monetary contribution (or its equivalent) is considered important because it establishes mutual responsibility between students, field teacher and central office and thereby lowers the need for field supervisory personnel. Both public and private adult education efforts are encountering problems in extending and maintaining a series of highly flexible programmes because of the shortage of resources typical of less developed countries. Although a student fee must be low – not more than a few days' wages calculated at the wage levels actually paid – it may be indispensable if the educational opportunity is to be made available at all. Costs can be kept low if there is a motivation factor and the design is efficient. Radio Santa Maria has been able, until now, to pay all of its operational costs from in-country sources and has much more flexibility in its planning and its extension in the country because it does not depend on the decisons of international agencies.

Another factor in the rapid extension of the Radio Santa Maria model in the Dominican Republic has been the practice of working through existing organizations. This, again, has reduced the need for field supervisory personnel. Since there is often a considerable amount of ignorance and scepticism regarding unconventional educational opportunities, the introduction of the radiophonic system at the advanced grade levels has required a special education of the public through organizations, the mass media, and other promotional efforts.

It is important to take into consideration, however, that no single educational opportunity will have a response from all the people who theoretically 'need' such an education. Although the great majority of people in rural areas of the Dominican Republic have not finished the 4th grade of formal education, only a small percentage of these feel that the real answer to their needs is *this* kind of adult education. Enrolment in the radiophonic primary and intermediate level programme in the Dominican Republic is likely to increase to between 25,000 and 35,000 and then decline as the need is satisfied. It is important that institutions such as Radio Santa Maria, which have the necessary organizational capacity and technical facilities, should continually analyse other needs and key motivations, and should design other educational programmes to ensure a continuing response to the great variety of educational needs felt by both young people and adults.

2. *Vertical integration*

Although the basic education programme of Radio Santa Maria was originally oriented toward adults in rural areas, in fact a student population has been attracted consisting of young adults and of adolescents moving into adulthood, a factor which introduces the question of integration with later educational stages. The intermediate level curriculum is oriented toward a pre-university secondary school education, which carries with it the problem that, inspite of the university aspirations of so many of the students, only a small percentage will probably reach this level, because of the current government policy of restricting university expansion. At the same time, it is unrealistic to expect a basic education programme to be linked too directly with specific employment opportunities.

The central theme method of Radio Santa Maria is an interesting approach because it introduces at the more general level of basic education a series of reflections linking the subject matter with specific problem areas which the student is likely to meet in his community: defence of economic rights, changing family structure, lack of local services, and many other situations demanding a more creative participation in the process of change in the Dominican Republic.

The type of curriculum reform which Radio Santa Maria has attempted is formidable. The effect of a system of basic education must be long-term and the central theme method has been introduced on an experimental basis for only about a year and a half, so that it is hazardous to judge the results entirely on the basis of evaluation of attitudinal change and community participation in this study. Nevertheless, there are many indications that the central theme, as it is presently designed, is very peripheral in the learning experience of the Radio Santa Maria students and that the method must be considerably improved or a broader curriculum embarked upon in order to achieve the objectives of integration.

1. At present the learning experience is centred in the traditional curriculum with a logic (or lack of logic) that tends to lead away from the central themes, and the central theme is essentially an added subject matter only marginally integrated with some of the subjects. The themes are chosen by observers of the situation, not by the student population which directly experiences it.
2. Although the motivation toward examinations and the certificate is important in the student's initial decision to enrol, if it remains the principal motivation it tends to enclose the central theme discussions within a terminal educational experience making vertical integration with later educational or life experiences difficult.
3. A number of discussions on lifelong education have stressed that specific programmes can hope to have significant outcomes only if there is a reorganization of the larger education system around the goals of lifelong education and if the political-economic structures support these goals.[2] As was noted in Chapter I, in the present context of national policy and social structure in the Dominican Republic there is bound to be a serious discontinuity between the motivations aroused in the students by the central theme discussions and the reality of the social context which the student will later meet (the well-known experience of

the 'idealistic student' becoming the 'pragmatic professional' who must somehow make a living). Perhaps the most realistic continuity is a preparation for discontinuity and obstacles to vertical integration.

When the educational programme is dealing with quite young students or with students representing various age levels, the most effective objective for the central theme or similar techniques may not be simply an awareness of specific aspects of the reality of the Dominican Republic (although it may be necessary to discuss a series of concrete facts), but a deeper, habitual manner of perceiving and interpreting reality, that is, a true critical awareness. Although the psychosocial method has been adapted to the radiophonic media at the literacy and basic functional education level, little work has been done in profound curriculum restructuring involving some adaptation of the psychosocial method, at the advanced primary and secondary levels. Such a reform would probably require the collaboration of other institutions, but it would represent a major contribution in view of the fact that radiophonic schools must increasingly move from literacy to more advanced levels of education.

3. *Horizontal integration*

The premise underlying the goal of horizontal integration is that most learning occurs outside of formal education and that formal education should be structured in such a way that the formal, nonformal and informal learning experiences complement and reinforce each other. The directors of Radio Santa Maria have rightly observed that one of the most influential learning experiences in modernization and social change is greater participation in community organizations,[3] and they have emphasized this participation as an important extension of the formal education programme.

The most important horizontal linkage mechanisms in the learning experiences proposed by Radio Santa Maria are: (a) discussion of the central theme in the weekly interchange meeting; (b) leadership of field teachers in community organizations, especially in youth organizations since both field teachers and students tend to be young; (c) introduction of the basic education programme through local organizations and emphasis on formal education as an activity of local organizations such as youth clubs, co-operatives, religious organizations and, in some cases, peasant organizations; and (d) support through the nonformal education programmes of the radio station.

Internal horizontal integration of subject matters through the central theme implies, as noted above, a quite thorough restructuring of the curriculum around themes which are generated in an analysis of central concerns of the potential student population.

A key element in the *external* horizontal integration is the field teacher who is responsible for gradually institutionalizing the sector as a factor of community participation and for making the weekly discussions an attractive and dynamic experience for students. The field teacher is most effective in this horizontal integration if he or she is a leader in community organizations and is a role model of integration of education with a broader range of attitudes and activities. However, in the ECCA system, even as adapted by Radio Santa Maria, the role of the field teacher tends to be defined as quite passive and academic (answering student questions and correcting lesson sheets). To achieve the goal of more complete horizontal integration the role of the field teacher must be redefined in a much broader concept of education, and a programme of much better selection and training must be instituted. Linking the more formal educational activities with community organizations also implies that the field supervisory staff must play a social role beyond simply checking on the academic functioning of the field teacher.

4. *Individual maturity and self-realization*

The Radio Santa Maria model provides an interesting extension of the idea of 'integral education' which has been characteristic of the radiophonic programmes in Latin America. Radio Santa Maria has attempted to combine six different learning experiences which would respond to every facet of the human personality and contribute to a balanced personal development: (a) extensive printed materials; (b) broadcast classes; (c) personal guidance by the field teacher; (d) group discussion; (e) broader educational and cultural programming; and (f) participation in community organizations. Not all of these learning experiences have been equally perfected and, in some of them, much remains to be done.

Perhaps the greatest progress has been in the printed study materials and the broadcast classes. These are designed to provide audio-visual, written, and oral learning experiences and to develop in the student a pattern of logical analysis. Having in the hand printed materials may explain why the radiophonic students generally tend to be consistently superior to other adult education students in more discursive subjects, such as Spanish language and natural sciences.

Ideally, the Radio Santa Maria system teaches young students how to combine various learning experiences and how to attack the problem of integrating a series of learning experiences throughout a lifetime.

5. *Capacity for self-direction in learning and readiness for new learning and relearning*

Perhaps the most important goal of lifelong education is this shifting of emphasis from the teacher or institutional initiative to student initiative in education so that the student learns not to depend so greatly on an institutional structure for his learning experiences. Radio Santa Maria offers a model in this respect since not only does the student learn to study on his or her own initiative, but the lesson sheet method encourages an attitude of personal discovery and integration with existing knowledge. The great advantage of this system is noted by Philip Coombs:

> 'The heavy reliance on face to face oral instruction has absorbed the bulk of resources in staff costs – leaving little or nothing for other aids to learning – and caused them to become the main bottleneck to expanding learning opportunities... It has also wasted the greatest educational resource of all – the extraordinary capacity of motivated people to learn on their own when given easy access to the stuff of learning.'[4]

And, as the comparison of results of Radio Santa Maria students in the official certificate examinations with those of students in a system using conventional classroom methods has indicated, students in a less structured system can be expected to have very acceptable levels of academic achievement.

An important element in the responsiveness to individual needs and individual growth is personal guidance by the field teacher. Ideally, the field teacher follows the development of the student in the review of the weekly lesson sheets, diagnosing weaknesses and, most important, responding to the specific interests of the student – perhaps encouraging the student to follow up interests with further reading and further study.

As has been noted above, it is possible to take hundreds of different individuals who are quasi-volunteers and develop them as a tutorial force capable of helping students to achieve relatively standard academic results, but the methodology of diagnosis of student progress, personal guidance, and motivation must be further analysed and systematized. The following remedial actions for possible weak points of the field teacher system need special attention.

1. Developing an efficient and rapid method of reviewing student exercises so that the personal guidance of students can be achieved without neglecting the other aspects of the role of the field teacher as a leader in community organizations, etc.
2. Ensuring that in the weekly interchange meeting the lower students get proper attention. Some of them do not know how to phrase questions or are ashamed to reveal their lack of knowledge, when the older, more aggressive students command the attention of the field teacher. If a student's lack of comprehension of some part of the material is not noticed early in the course, it is difficult for him to follow the progress of the lesson sheets and the daily broadcasts so that the course becomes an unintelligible jumble.
3. While the field teacher should be allowed considerable flexibility and initiative, steps must be taken to ensure greater consistency and thoroughness in the weekly interchange so that the students achieve more standard academic results.
4. Introduction of more self-evaluation would both lessen the work of the field teacher and place more emphasis on self-direction in learning. Perhaps even more self-programming could be incorporated so that the more rapid or interested student has the opportunity for wider reading or study beyond what is presented in the lesson sheets and the broadcast classes.
5. The method of training field teachers through their own 'correspondence course' and 'broadcast explanations' is most interesting, and it is virtually the only efficient and economical means of training them under the present circumstances. This method might be somewhat more formalized, and recognition might be given to field teachers for the training and experience they have obtained. However, it appears necessary to have at least a thorough introductory course in order to establish field teacher identification with the institution, Radio Santa Maria, etc., and lay the foundation for further training through the correspondence material and the radio.

A final word

The fundamental innovativeness of the Radio Santa Maria model of adult education is in the combination of *six different learning experiences*. Some of these, such as the field teacher and the greater integration of students with local community organizations, need considerably more analysis and development. However, the data of this study show that, when these different learning experiences combine and interact with each other, the levels of academic achievement of students in the radiophonic system and their levels of critical social awareness are notably above those of students in the conventional classroom system. Radio Santa Maria has had only four or five years in which to develop these educational innovations. It is to be expected that there will be considerable further development of the methodology which is implied in the basic objectives outlined at the start in 1970.

Notes

1. A more complex description of personnel in the National Office of Education is presented in Appendix 2. 3, see under the year 1974.

2. '*The political will*. Lifelong education requires considerable change in society. Part of this societal change will be political in nature, with a continuing movement not only towards democratization of education, but also towards democratization of society ...
   The effects of social and cultural factors. Some social systems cannot support lifelong education. For example, when a society seeks mainly material goals, it establishes a social system based on "rivalry and aggression" ... Hence, culture can be a source of lifelong education, or an obstacle to it. What is needed for the achievement of lifelong education is a change in value systems ...'
   Dave, R.H., et al. *Foundations of lifelong education*, Hamburg, Unesco Institute for Education; Oxford, Pergamon Press, 1976, p. 362.

3. In the study analysing the impact of Radio Santa Maria on knowledge, attitudes and practice regarding agrarian change, health, community participation and family relations, consistently the most important factor is the degree of participation in community organizations. Cf. White, R.A. The role of a radio station in the process of social change in the Dominican Republic. Unpublished report, La Vega, 1976.

4. Coombs, P.H., with Manzoor, A. *Attacking rural poverty: how nonformal education can help*. Baltimore, Md., The John Hopkins University Press, 1974, p. 171.

5.11. The ACPO Education Model

from: Hernando Bernal Alarcón/
Paul H. Masoner/
Liliana Muhlmam Masoner,
Acción Cultural Popular.
Pioneer Radiophonic Education
Programme for Latin America
1947-1977. Bogotà 1977,
pp. 9-16

III. THE ACPO EDUCATION MODEL

Central to the ACPO model of non-formal education are the educational broadcasts via Radio Sutatenza and the radiophonic schools. However, the radio messages and the radiophonic schools function as part of a total system involving also a set of six basic textbooks, books from the Campesino Library, a weekly newspaper, recordings, extension courses, campaigns, and the field personnel who function in a face-to-face relationship with the campesinos who are the target of ACPO's educational efforts. Essential to the operation of the system are professional personnel who are responsible for the planning of the educational program, the development of educational materials and broadcasts, and of the operation of institutes for training field workers.

Instructional Radio

Over the years the program of courses via Radio Sutatenza has been revised many times to accomodate to changing needs and to improve instructional strategies. The instructional radio program in 1977 offers 80 hours of broadcast each week and includes four courses which together deal with the wide range of ACPO objetives.

The first of these courses is basic education which deals with reading and writing and numbers, and which is designed to develop among the participants basic literacy. At the same time, completion of this course is essential to participation in other radio courses. The course is offered one-half hour daily (with one repeat broadcast), covers a period of four months, and is sequential in nature. For campesinos who cannot listen on a regular basis, the entire course has been reproduced on a set of records and is available along with a radio-record player.

The remaining courses focus on three broad subject areas: health and work, numbers and communications, and community life and problems. However, within these three areas the courses cover a wide range of topics that encompass ACPO's goals and objectives. Sources are organized into units or modules of instruction, each dealing with specific areas of concern. Examples of some of the topics dealt with on a modular basis include the following: health (inmunization against disease, alcoholism, community health services); work (family vegetable garden, fruit-growing, marketing of products, animal breeding); community life (participation in community organizations, development of sports fields, community actions to solve specific problems.).This modular non-sequential approach makes it possible for those who cannot listen on a continuing basis over a three or four months period to profit from the opportunity to give attention over the period of a few days or weeks to specific topics of interest and concern.

In all radio courses teaching and learning are linked to the use of the basic textbooks, the books of the campesino library, and the wekly newspaper *El Campesino.*

The Radiophonic School

An essential aspect of ACPO's instructional radio are the thousands of radiophonic schools throughout the country. The radiophonic school is not a school in the usual formal sense of the term. Rather, it is an educational setting involving one or more persons, each interested in learning, each willing to use his own resources, and each prepared to become involved in the educational programs of Radio Sutatenza. While it is not possible to describe a typical school, since none really exists, it is possible to list some general characteristics. More often than not the school will involve up to as many as 10 participants, often members of the same family or several families of the same neighborhood (vereda), covering a range of ages from children to adults including both those who have had no previous education and those who may have had some limited attendance in the formal school system, and all with a common desire to improve their way of life. The group meets on a regular basis, usually in a home, to listen to the instructional radio broadcasts and to participate in appropriate learning activities. In most instances the school utilizes the services of an inmediate auxiliary (auxiliar inmediato) or monitor who is a volunteer with minimun knowledge often gained from earlier participation as a student in a radiophonic school and with minimum training. As a monitor, the inmediate auxiliary assumes the role of helping the students in specific learning activities related to the radio broadcasts and the use of related learning materials such as the textbooks, the books of the library, and the newspaper.

The Texbooks and the Campesino Library

The textbooks (cartillas), six in number, provide the basic content for the ACPO educational program. They are listed below:

Cartilla Básica (Basic Text)
Nuestro Bienestar (Our Health)
Hablemos Bien (Let Us Speak Correctly)

Cuentas Claras (Clear Mathematics)

Suelo Productivo (Productive Land)

Comunidad Cristiana (Christian Community)

These six texts are designed for specific use in connection with the instructional radio programs as well as for continuing study by the individual campesino once he has developed the minimun basic skills of reading, writing, and mathematics.

The books of the Campesino Library (La Biblioteca del Campesino) numbering almost 50 titles, complement and supplement the content of the instructional radio programs and the textbooks. They cover a complete range of ACPO program content associated with ACPO goals and objectives and include varied topics such as the cultivation of fruit trees, fish culture and fishing, pig raising, bee keeping, cattle raising, first aid, health and nutrition, contagious diseases, sex and marriage, children's stories, playing the guitar, civic rights.

These books of the library are used both in connection with specific radio courses and as reference materials as well. In practice, it is not uncommon for the library collection be located in one or more homes in a community and utilized according to the interests or needs of the individual campesinos. Often, for example, as animals contract certain deseases, the campesino will refer to the specific book of the library for information regarding appropriate treatment. Similarly, the campesino who wishes to diversify his crops, will often refer to specific books for information that will permit him to engage in successful production of new and different foods.

The Newspaper

El Campesino, a weekly newspaper published by ACPO and distributed throughout Colombia, is an important element of the ACPO educational program. *El Campesino* is used regularly in connection with the radio courses as an additional source of information and a reference. At the same time, it makes it possible for thousands of campesino families to become more aware of the world in which they live and of the events in Colombia and elsewhere that have importance to themselves and to society generally.

While *El Campesino* has the usual features of a newspaper, special emphasis is given to news that is of importance to rural development and to the concerns of campesinos. In addition, in each issue, there is a *separata* or separate section which contains feature articles relating to such concerns of the campesino as improved agricultural practices, techniques for the care of farm animals, suggestions on nutrition, better health care, recipes for cooking, hints on the making of clothing, as well as occasional poetry or prose selections contributed by campesinos.

Correspondence

An aspect of ACPO's program, not always associated with non-formal education programs, is an extensive correspondence between campesinos and the central offices of ACPO. Once a campesino has completed the basic literacy course, he is encouraged to write his first letter to ACPO. For many campesinos this letter is the beginning of an extended correspondence which in effect becomes a part of a continuing educational program once participation in courses may have ceased. Campesinos are encouraged to write to ACPO for information and assistance relating to their needs and problems. Each letter is answered individually in an effort to provide the needed assistance. In 1976 more than 46,670 letters were received from pampesinos and answered by the staff assigned to the correspondence section.

Extension Courses

Extension courses are utilized throughout Colombia by ACPO in an effort to meet specific local problems and needs. Typically an extension course is a one-day workshop activity, organized in cooperation with interested campesinos by an ACPO field worker, and dealing with a problem of local interest and concern. A few examples of the topics dealt with in extension courses are: community organization, cooperatives, proper use of credit, improvement of agricultural techniques, conservation of natural resources, nutrition, development of home industries, and utilization of services of other community agencies.

Campaigns

Campaigns are regularly utilized in an effort to encourage and assist campesinos to make practical applications of what has been learned through the instructional radio programs, radiophonic schools, recordings, and printed matter. These campaigns are featured in articles in *El Campesino*, are promoted via Radio Sutatenza, and are conducted at the local level by ACPO field workers. Direct assistance is given to campesinos to apply what they have learned in a variety of ways.

Some campaigns have a continuing emphasis throughout the year and even over a period of years. Among these are campaigns related to: nutrition, housing, soil, matters of present concern and even of continuing concern but which are given special emphasis through short-term programs. Examples of the temporary campaigns are the following: the vegetable garden, the fish pond, the compost pit, community services, conservation of family economic enterprises, balanced diet, bee keeping, running water for the home, building of latrines, community organizations, and methods of marketing products. These temporary campaigns are integrated with permanent campaigns whenever it appears relevant and useful.

Promotional Elements and Activities

Recognizing the importance of helping campesinos to become aware of their needs and problems and to recognize the role of education in improving the quality of their lives, ACPO utilizes a number of promotional elements and activities in an effort to develop among campesinos an understanding of the ACPO educational programs and an interest in participation. Radio Sutatenza is an important element in this promotional task. The educational programs and other broadcasts constantly bring to the attention of campesinos the ACPO program and its potential outcomes. In addition, *El Campesino* serves a similar purpose among the many thousands of campesinos who come into contact with it weekly. The field workers, as representatives of ACPO and as persons with responsibilities for program activities, by their example and through their associations with campesinos constantly are a source of information and encouragement. Supplementing these resources, ACPO uses motorized mobile equipment (ACPO Movils) equipped with a variety of audio-visual equipment and aids to bring the message directly to the people in remote areas. In addition, leaflets and other printed matter, the textbooks and the books of the library, are important in carrying the message of ACPO to rural Colombia.

The Interpersonal Component

Although ACPO is viewed as a program of radiophonic education and although considerable reliance is placed on printed materials that complement and supplement instructional radio, a critical element in ACPO's success over the 30 years of its operation are the human resources that constitute the interpersonal component.

These resources fall into three categories in the ACPO structure as follows:

Management and Planning. Included here are those responsible for top policy making, administrative and financial direction, planning and evaluation, and operations, including the management of units involved in publishing ventures (Editorial Andes and Editorial 2000) and in the operation of Radio Sutatenza.

Educational Development. The tasks and responsabilities of this category focus on the educational leadership and planning activities for ACPO's massive non-formal education program. The professors (profesores) are responsible for developing the curriculum of the radio education program, for writing radio scripts, for radio teaching, for writing the textbooks of the library and the education section of *El Campesino.* The teacher educators (educadores) are the faculty of the institutes where field personnel are prepared. They have the task of developing the curricula of the institutes and operating the instructional program, including both didactic and practical elements.

Field Staff. In this category are both volunteer and paid field staff who in actuality are the teachers who work in a face-to-face setting with the campesinos. Included here are the following: the school monitor (auxiliar inmediato) who helps to guide the participants of the radiophonic school; the community worker (dirigente) who serves a small neighborhood and gives assistance to the school monitors, interprets and promotes ACPO programs, and works directly with campesinos in program activities; and the leader (líder) who is the key person in the activities of ACPO in a community, giving supervision to school monitors and community workers, organizing and promoting ACPO programs, and serving as the ACPO representative. In addition to these neighborhood and community staff members are the supervisors who give direction and supervision to all field staff in a group of communities, and the zone chiefs and their assistants who are responsible for the general direction and operation of ACPO in the seven zones of the country.

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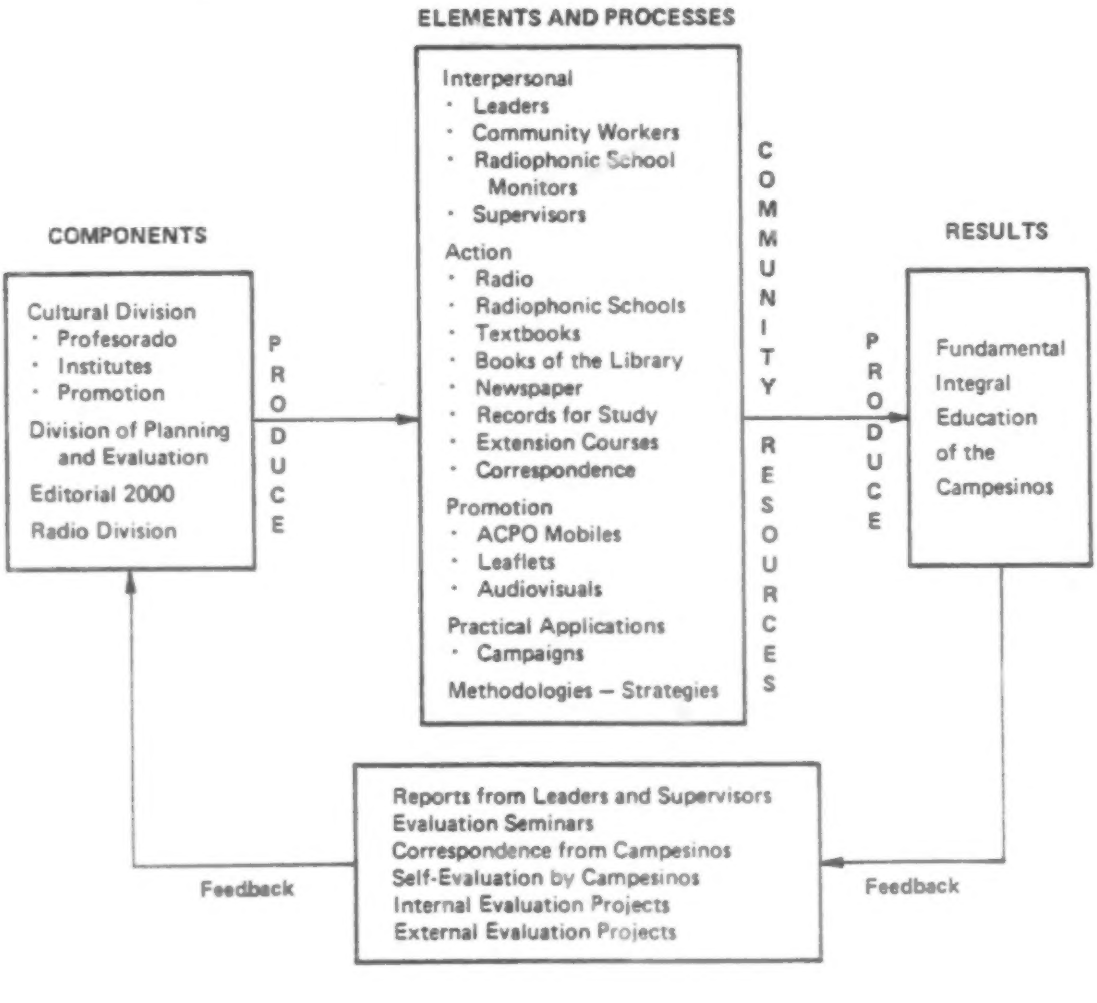
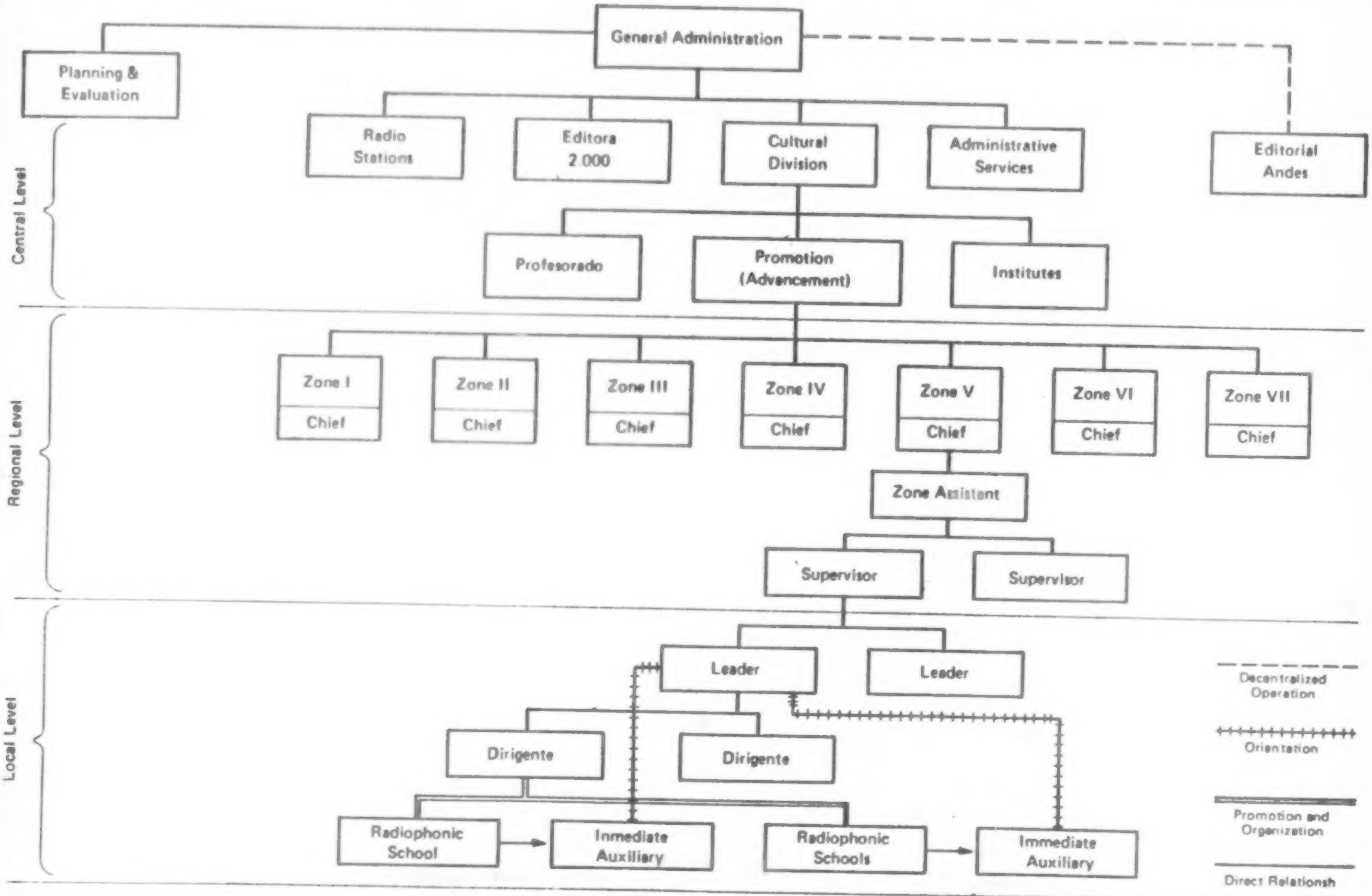
THE ACPO EDUCATION MODEL


ELEMENTS AND PROCESSES
COMPONENTS
Cultural Division
· Profesorado
· Institutes
· Promotion
Division of Planning and Evaluation
Editorial 2000
Radio Division
PRODUCE
Interpersonal
· Leaders
· Community Workers
· Radiophonic School Monitors
· Supervisors
Action
· Radio
· Radiophonic Schools
· Textbooks
· Books of the Library
· Newspaper
· Records for Study
· Extension Courses
· Correspondence
Promotion
· ACPO Mobiles
· Leaflets
· Audiovisuals
Practical Applications
· Campaigns
Methodologies – Strategies
COMMUNITY RESOURCES
PRODUCE
RESULTS
Fundamental Integral Education of the Campesinos
Reports from Leaders and Supervisors
Evaluation Seminars
Correspondence from Campesinos
Self-Evaluation by Campesinos
Internal Evaluation Projects
External Evaluation Projects
Feedback
Feedback

ACPO ORGANIZATIONAL LEVELS


General Administration
Planning & Evaluation
Radio Stations
Editora 2.000
Cultural Division
Administrative Services
Editorial Andes
Profesorado
Promotion (Advancement)
Institutes
Zone I
Chief
Zone II
Chief
Zone III
Chief
Zone IV
Chief
Zone V
Chief
Zone VI
Chief
Zone VII
Chief
Zone Assistant
Supervisor
Supervisor
Leader
Leader
Dirigente
Dirigente
Radiophonic School
Inmediate Auxiliary
Radiophonic Schools
Immediate Auxiliary
Central Level
Regional Level
Local Level
Decentralized Operation
Orientation
Promotion and Organization
Direct Relationsh

6. SUMMING UP

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pp. 115-117

Summing up

In this chapter we have tried to provide a brief theoretical framework, followed by a list of requirements which seem in large proportion to be well met by the more successful cases, less well by the less successful ones.

A theory of educational use of the media must almost necessarily begin with the distributive powers of the media—their ability to multiply and disseminate with great efficiency some selected parts of the information available to the system in which they work. Used in an educational system they let educators distribute teaching resources in a more efficient way. Whereas the older media, such as the book, could distribute the substance of teaching, the new media, notably radio and television, can share teaching itself. With their help, the educator can share some of his best teaching more widely, offer specialized teaching and special subjects where they would otherwise not be available, and in some cases extend the opportunities of schooling beyond the school.

To do this well, the media must be integrated into the educational system. They cannot stand apart from it; their content is the system's content; their teachers are the system's teachers. This implies broad involvement, acceptance, support. It implies also that a context of learning activity will be built around the media at the point of reception. Except in the rarest instances, the media cannot be counted upon to do an adequate educational job alone. It is not enough to try to pour content into listeners or viewers; rather the goal is to stimulate learning activity. This means that special pains must be taken with the content to stimulate this kind of activity, and that planned activity must be built around the media, whether in a class-room, in an out-of-school learning group, or a village forum. This requires some organization, some supervision by a teacher or a monitor, and arrangements for a flow of information back from the receiving group to the transmitting teachers. In other words, the most effective use of the educational media, especially the broadcast media, falls into a pattern of team teaching, in which a studio teacher, a class-room teacher or group monitor, and perhaps another teacher speaking through textual, exercise, and outline materials combine their efforts, each in his own best way.

The introduction of new media offers an educational system an unequalled opportunity to review its goals, curriculum and methods of instruction. This is partly because the media are likely to be most efficient, both educationally and economically, when used in a context of change—to expand the educational system, to upgrade instruction significantly, to introduce new subjects or a new curriculum, to upgrade large numbers of teachers, or to reach beyond the present coverage of the school—in other words, to do something distinctly new. This is why they are so attractive to developing countries, although it is more difficult to introduce them in those countries.

Another reason why the time of introduction of educational media is a good time to review goals and means is that the media by their nature require a certain critical mass to be reached before they are used most efficiently, either in terms of economics or in terms of education. The programme services and quality must be of a substantial scale and intensity if they are to achieve any really significant educational result, and the number of learners served must be large enough to translate the relatively high over-all investment and running costs into low unit costs which can be borne by available education resources. And the media are most likely to be taken seriously and built into educational practices when used for a problem sufficiently important and on a scale sufficiently large that the goal, the impact, and the result can be readily seen.

Turning to more specific matters, we said that if we had to name only one prerequisite of effectiveness of a new-educational-media project, we would say, let it begin with a problem. Let it not begin with a piece of new technology, but with a recognized and significant problem for which the most appropriate technology could be selected. Then we listed seventeen requirements or elements that seemed, in large proportion, to separate the more effective from the less effective projects. These were:

Preliminary decisions

1. A review of needs, and evaluation of alternatives
2. Selection of an alternative of feasible size
3. Allocation of adequate financial resources

Matters of organization

4. Strong support from top authority
5. Unity of purpose among the responsible authorities
6. Broad involvement

Matters of planning and preparation at the centre

7. A planned and phased introduction of the new medium or method
8. Technical adequacy
9. A well-trained technical and programme staff, and continuity of key personnel
10. High-quality media content, based on the national goals

Matters of relationship between centre and points of use

11. Necessary logistics for delivering materials
12. Provision for feed-back from users
13. Continuing contact with teachers or monitors

Matters connected with providing an effective context for learning at the receiving end

14. A study or discussion group at the point of reception, adequately equipped and supplied
15. Arrangements for maintaining receivers and other field equipment
16. Competent supervision of learning activity at the point of reception
17. Some direct contact between pupil and teacher, if study groups cannot be brought together

Let us close this chapter by repeating something said earlier in it: the new media are not miracle drugs for an ailing educational system. Rather they are potentially efficient system components which may be used effectively or ineffectively to strengthen an educational system. To use them effectively requires that careful attention be paid to elements such as those we have just listed.

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3. Asien / Asia
4. Lateinamerika / Latin America

B. Schulwesen/Formale Erziehung
school / formal education
1. Entwicklungsländer / developing countries
2. Afrika /Africa
3. Asien / Asia
4. Lateinamerika / Latin America

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KAT90	Bo 149: E - II 87 - 27

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A 2. Africa

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           Nairobi/Kenya vom 7. Januar-13. Januar 1979.
           Untersuchung, Bericht, Analyse
KAT50      Muenchen: Selbstverl. x1979. VI+111+Anh.<31> S.,
           Bild., graph.Darst., Tab.
KAT53      Deutsch; Anh.in Englisch
KAT70      *Entwicklungslaender + *Afrika anglophon/
           Rundfunk: Ausbildung, Personal
           + Fernsehen: Personal, Ausbildung
KAT90      Bo 149: D - AF I Ob - 5
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KAT10	79-10164-1i
KAT20	<BRD> Friedrich-Ebert-Stiftung
KAT30	Crowley, David; Etherington, Alan; Kidd, Ross; Hubbard, Petra <Ill.>
KAT40	Radio Learning Group Manual. How to run a Radio Learning Group Campaign
KAT50	Bonn x1978. 197 S., Bild., Tab., Bibliogr.S.194-195
KAT53	Englisch
KAT70	*Entwicklungslaender + *Afrika/ Rundfunk: Erziehung, Handbuch + Ausserschulische Erziehung: Laendliches Gebiet
KAT90	Bo 149: E - AF I 02 - 7

KAT10	78-10199-1i
KAT20	<Grossbritannien> International Extension College.Cambridge
KAT30	Dodds, Tony
KAT40	Multi-Media Approaches to Rural Education
KAT50	Cambridge x1972. 48 S., Bibliogr.S.47-48
KAT51	(IEC Broadsheets on Distance Learning.1)
KAT53	Englisch
KAT70	*Entwicklungslaender + *Ghana + *Tansania + *Elfenbeinkueste + *Indien/ Massenmadien + Rundfunk: Laendliches Gebiet + Fernunterricht + Ausserschulische Erziehung + Audiovision
KAT90	Bo 149: E - II B7 - 16

KAT10	75-00487-1i
KAT20	<BRD> DSE
KAT40	African Broadcasting in the Seventies. International Conference, 25 June to 5 July 1972. Conference Report
KAT50	Berlin x1973. VI+118+VI+130 S., bibliogr.Hinw.
KAT51	(DOK.608 A/a/b - III-S.7/72)
KAT53	Englisch, Franzoesisch
KAT70	*Afrika/ Rundfunk, Konferenzbericht + Rundfunk, Satellit + Kulturpolitik: Rundfunk + Entwicklungsfragen: Rundfunk + Ausbildung: Rundfunk + Rural Development: Rundfunk
KAT71	Feedback
KAT90	Bo 149: D - AF I 02 - 5

KAT10	82-10112-1i
KAT20	<BRD> DSE
KAT30	Rode, Clemens H. F. <Hrsg.>
KAT40	Die Rolle des Rundfunks bei der Einfuehrung von Neuerungen in der Landwirtschaft. Seminar fuer afrikanische Rundfunkjournalisten. Arbeitsunterlagen
KAT50	Feldafing x1971. 86 S., Tab.
KAT53	Deutsch, Franzoesisch
KAT70	*Afrika/ Rundfunk: Landwirtschaft, Modernisierung + Rural Development: Erziehung, Rundfunk
KAT90	Bo 149: E - AF I 02 - 8

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KAT10     76-10070-1i
KAT30     Head, Sysney W. <Hrsg.>
KAT40     Broadcasting in Africa. A Continental Survey
          of Radio and Television
KAT50     Philadelphia: Temple Univ.Pr. x1974. XVI+453 S.,
          Tab., Reg., Bibliogr.S.415-440
KAT51     (International and Comparative Broadcasting)
KAT53     Englisch
KAT70     *Afrika/ Rundfunk + Fernsehen
          + Bildungshilfe: Massenmedien
KAT90     Bo 149: E - AF I 02 - 6
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KAT10     81-10104-1i
KAT20     Afrolit Society.Nairobi;
          <Aethiopien> Radio Voice of the Gospel.
          Addis Ababa
KAT30     Hein, Charles T. <Hrsg.>
KAT40     Communicating across Cultural Barriers.
          A dynamic Equivalent Approach to the Use of
          Radio and other Media in Biblical Evangelism.
          United Bible Societies Seminar Report,
          October 1-14, 1976
KAT50     Nairobi: Afrolit; Addis Ababa: Radio Voice
          of the Gospel x1977. VI+139 S., Bild.
KAT51     (Afrolit Paper.3)
KAT53     Englisch
KAT70     *Afrika/ Rundfunk: Bibel + Mission: Massenmedien
KAT90     Bo 149: E - AF I 01 - 6
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KAT10     83-06644-1i
KAT30     Ligier, Francoise
KAT40     La politiqua de la stimulation.
          Theatre et radio: un collaboration
          positive
KAT50     in: Recherche Pedagogie et Culture. Paris
          Nr.61. 11(x1983). S.30-35
KAT53     Franzoesisch
KAT70     *Afrika/ Theater: Rundfunk
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KAT10     81-05702-1i
KAT30     Naumann, Jens
KAT40     Rundfunk und Fernsehen in Afrika und ihre
          Bedeutung fuer informelle Bildung
KAT50     in: Zeitschrift fuer Paedagogik. Weinheim
          16.Beih. (x1981). S.251-261
KAT70     *Afrika/ Rundfunk + Fernsehen
          + Ausserschulische Erziehung: Massenmedien
KAT80     Aspekte der politischen und technologisch-
          oekonomischen Dynamik der Verbreitung von Rundfunk
          und Fernsehen in Afrika; Probleme der
          wissenschaftlichen Aufarbeitung der Verbreitung
          und Wirkung von Rundfunk und Fernsehen;
          bildungspolitische Prioritaeten und Forschungsdesiderate.
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KAT10     78-10330-1i
KAT20     UNESCO
KAT30     Sine, Babacar
KAT40     Education and Mass Media in Black Africa.
          Problems presented by the Adaptation of
          Educational Technologies
KAT50     Paris x1975. 30 S., Anh.
KAT53     Englisch
KAT70     *Afrika/ Massenmedien: Erziehung + Pressewesen
          + Unterrichtstechnologie + Alphabetisierung
          + Rundfunk: Erziehung
KAT90     Bo 149: E - AF I 01 - 3
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Botswana

KAT10	79-05308-1i
KAT30	Kidd, Ross; Etherington, Alan
KAT40	Radio Learning Campaigns: The Botswana Experience
KAT50	in: Convergence. Toronto 11(x1978)3-4. S.83-92
KAT53	Englisch; Zsfg.in Franzoesisch, Spanisch
KAT70	*Botswana/ Rundfunk: Erwachsenenbildung
KAT80	Entwicklung und Zielsetzung der Radioprogramme, die in Tansania zur politischen Erziehung und in Botswana zu einer Aufklaerungskampagne ueber Ueberweidung eingesetzt wurden: Beschreibung von Planung und Organisation, Lehrmaterial usw. und den ueber das Programmthema hinausgehenden positiven Auswirkungen auf andere gesellschaftliche Bereiche.

KAT10	82-10136-1i
KAT20	<Botswana> Ministry of Education.Boipelego Education Project
KAT40	Lesedi La Puso.<1>.A Radio Learning Group Campaign in Western Botswana
KAT50	o.O. <um x1980>. 167 S., Bild., Tab.
KAT53	Englisch
KAT70	*Botswana/ Rundfunk, Kampagne
KAT90	Bo 149: E - BOT I 02 - 2/1

KAT10	82-10137-1i
KAT20	<Botswana> Ministry of Education.Boipelego Education Project
KAT40	Lesedi La Puso.<2>.Study Guide
KAT50	o.O. <um x1980>. 50+49 S., Bild.
KAT53	Englisch, Botsuanisch
KAT70	*Botswana/ Alphabetisierung, Lehrbuch + Rundfunk, Kampagne + Politische Erziehung
KAT90	Bo 149: E - BOT I 02 - 2/2

Kenia

KAT10	73-00153-1i
KAT20	<BRD> Friedrich-Ebert-Stiftung. Forschungsinstitut
KAT30	Treydte, Klaus-Peter
KAT40	Radio/Correspondence Instruction and Development in Kenya. The CCU Case: From the Evaluation Point of View
KAT50	Bonn-Bad Godesberg x1973. 24 S., graph.Darst., Tab., bibliogr.Hinw.
KAT51	(Discussion Paper.1)
KAT53	Englisch
KAT70	*Kenia/ Fernunterricht, Rundfunk + Fernunterricht, Fallstudie
KAT90	Bo 149: D - KEN II 87 - 3

Nigeria

KAT10	84-06639-1i
KAT30	Ezeomah, Chimah
KAT40	Educational radio programme for nomadic people
KAT50	in: Convergence. Toronto 16(x1983)3. S.59-64
KAT53	Englisch
KAT70	*Nigeria/ Rundfunk: Nomadismus + Erwachsenenbildung
KAT80	The major concern of this paper is an examination and evaluation of the education broadcast from its inception. The broadcast is designed as part of the education of the Fulani, not merely to be listened to, but to arouse their reflection and reactions. Because such broadcasts will bring information in areas that affect their daily lives, their awareness of events around them will be aroused so that they can take an active part in their education.

Obervolta

KAT10	84-10196-1i
KAT20	UNESCO.Division des Structures, Contenus, Methodes et Techniques de l'Education
KAT30	Sanwidi, Ignace
KAT40	Etude sur les relations entre les experiences d'education non formelle et le systeme educatif formel en Haute-Volta
KAT50	Paris x1981. 44 S.
KAT51	(ED-81/WS.44)
KAT53	Franzoesisch
KAT70	*Overvolta/ Bildungsreform + Frau, Ausbildung + Ausserschulische Erziahung: Schule + Rural Education: Rundfunk + Landwirt: Lebenslanges Lernen + Landwirtschaftsschule Functional Literacy: Laendliches Gebiet
KAT90	Bo 149: E - OV II Ab - 2

Somalia

KAT10	77-10446-1i
KAT20	<Somalia> Somali Democratic Republic; UNESCO
KAT30	Martin, Daniel P.
KAT40	Radio for Adult Education and Literacy. Support to National Literacy Activities
KAT50	Paris x1977. 27 S., graph.Darst., Tab.
KAT51	(Technical Report)
KAT53	Englisch
KAT70	*Somalia/ Erwachsenenbildung: Rundfunk + Alphabetisierung
KAT90	Bo 149: E - SOM II A3 - 1

Tansania

KAT10	74-10566-1i
KAT20	<BRD> Friedrich-Ebert-Stiftung
KAT30	Welsh, Brian W. W. <Hrsg.>
KAT40	A Handbook for Scriptwriters of Adult Education Broadcasts. A Mass Media Manual.1
KAT50	Bonn-Bad Godesberg.2.Aufl. x1973. 280 S., Bild.
KAT70	*Entwicklungslaender + *Tansania/ Erwachsenenbildung: Rundfunk, Programm
KAT80	Handbuch fuer Programmgestalter des Erziehungsfunks
KAT90	Bo 149: E - I 02 - 6/1

KAT10	74-10567-1i
KAT20	<BRD> Friedrich-Ebert-Stiftung
KAT30	Welsh, Brian W. W. <Hrsg.>
KAT40	A Handbook for Scriptwriters of Adult Education Broadcasts. A Mass Media Manual.2
KAT50	Bonn-Bad Godesberg.2.Aufl. x1973. 313 S., Bild.
KAT70	*Entwicklungslaender + *Tansania/ Erwachsenenbildung: Rundfunk, Programm
KAT80	Handbuch fuer Programmgestalter des Erziehungsfunks
KAT90	Bo 149: E - I 02 - 6/2

KAT10	75-10405-1i
KAT20	<Schweden> Scandinavian Institute of African Studies.Uppsala
KAT30	Hall, Budd L.
KAT40	Wakati Wa Furaha. An Evaluation of a Radio Study Group Campaign
KAT50	Uppsala x1973. 47 S., Kt., Tab.
KAT51	(Research Report.13)
KAT53	Englisch
KAT70	*Tansania/ Erwachsenenbildung: Rundfunk, Evaluierung
KAT90	Bo 149: E - TAN I 02 - 1

KAT10	75-10493-1i
KAT20	UNESCO; International Bureau of Education. Geneva
KAT30	Grenholm, Lennart H.
KAT40	Radio Study Group Campaigns in the United Republic of Tanzania. Study prepared for the International Educational Reporting Service
KAT50	Paris: Unesco Pr. x1975. 50 S., graph.Darst., Bibliogr.S.50
KAT51	(Experiments and Innovations in Education.15)
KAT53	Englisch
KAT70	*Tansania/ Rundfunk: Erwachsenenbildung
KAT90	Bo 149: E - TAN I 02 - 2

KAT10	76-10229-1i
KAT30	Mbakile, E. P. R.
KAT40	Radio Education Programme as a Support to Literacy Methods: The Experience in Tanzania
KAT50	Mwanza x1975. III+47 S.
KAT53	Englisch
KAT70	*Tansania/ Erziehung, Rundfunk: Evaluierung
KAT90	Bo 149: E - TAN II A3 - 4

KAT10	78-10251-1i
KAT20	<Grossbritannien> International Extension College.Cambridge
KAT30	Hall, Budd L.; Dodds, Tony
KAT40	Voices for Development: The Tanzanian National Radio Study Campaign
KAT50	Cambridge x1974. 51 S., Anh.
KAT51	(IEC Broadsheets on Distance Learning.6)
KAT53	Englisch
KAT70	*Tansania/ Fernunterricht + Erziehung: Rundfunk + Ausserschulische Erziehung
KAT90	Bo 149: E - TAN II B7 - 1

KAT10	78-10352-1i
KAT20	<USA> Academy for Educational Development. Clearinghouse on Development Communication. Washington
KAT30	Hall, Budd L.
KAT40	MTU NI AFYA. Tanzania's Health Campaign
KAT50	Washington,D.C. x1978. IX+74 S., Tab., Bibliogr.S.73-74
KAT51	(Information Bulletin.9)
KAT53	Englisch
KAT70	*Tansania/ Massenmedien + Rundfunk: Erziehung + Erwachsenenbildung + Erziehung: Gesundheit + Erziehung, Rundfunk: Evaluierung
KAT90	Bo 149: E - TAN I 02 - 3

KAT10	79-10639-1i
KAT20	<BRD> Institut fuer Afrika-Kunde.Hamburg
KAT30	Hinzen, Heribert
KAT40	Erwachsenenbildung und Entwicklung in Tanzania. Eine Darstellung und Analyse ihrer konzeptionellen Vorstellungen und praktischen Massnahmen
KAT50	Hamburg x1979. XIV+439 S., Tab., Bibliogr. S.295-439
KAT51	(Arbeiten aus d.Institut fuer Afrika-Kunde.22)
KAT70	*Tansania/ Erwachsenenbildung + Entwicklung + Alphabetisierung + Bildungspolitik + Grunderziehung + Rundfunk: Erziehung + Community Development + Massenmedien
KAT90	Bo 149: E - TAN II D6 - 11

KAT10 83-10306-1i
KAT20 UNESCO.Regional Office for Education in Asia
and the Pacific.Bangkok
KAT40 Literacy Curriculum and Materials Development;
Portfolio of Literacy Materials.1: Four Monographs.
4.Follow-up Materials Development
KAT50 Bangkok x1981. 59 S.
KAT53 Englisch
KAT70 *Asien/ Alphabetisierung: Lehrmittel
+ Erwachsenenbildung: Rundfunk
+ Alphabetisierung: Lehrmittel, Produktion
+ Lehrplan: Alphabetisierung
KAT71 Post-Literacy Programmes
KAT90 Bo 149: E - AS II A3 - 9/4

KAT10 82-10361-1i
KAT20 UNESCO.Regional Office for Education in Asia
and Oceania.Bangkok
KAT40 Production and Utilization of Educational
Broadcasting Programmes. Report of an APEID
Technical Working Group Meeting on Educational
Broadcasting, Kuala Lumpur, Malaysia,
19 November - 1 December 1979
KAT50 Bangkok x1980. 55 S., Tab.
KAT51 (Asian Programme of Educational Innovation
for Development)
KAT53 Englisch
KAT70 *Asien + *Australien + *Afghanistan + *Indien
+ *Bangladesch + *Indonesien + *Suedkorea
+ *Japan + *Malaysia + *Nepal + *Philippinen
+ *Papua-Neuguinea + *Sri Lanka + *Thailand/
Rundfunk, Programm: Erziehung
+ Fernsehen, Programm: Erziehung
+ Evaluierung: Erziehung, Rundfunk
KAT71 Non-formal Education; Erziehungsfernsehen
E- AS IIB2 -4

KAT10 79-10025-1i
KAT20 UNICEF; <Bangladesch> Radio Bangladesh
KAT30 Khanam, Sufia
KAT40 Radio Use in Rural Bangladesh. An Evaluative
Study on Effectiveness of Radio as a Means of
Communication in Rural Bangladesh
KAT50 Dacca x1977. 58 S., Bild., graph.Darst., Tab.
KAT53 Englisch
KAT70 *Bangladesch/ Rundfunk: Laendliches Gebiet
KAT90 Bo 149: E - BAN I 02 - 1

KAT10 77-05084-1i
KAT30 Juterczenka, Manfred v.
KAT40 Chancen fuer den Landfunk
KAT50 in: Entwicklung und laendlicher Raum.
Frankfurt/M. 10(Sept./Okt.x1976)5. S.9-12
KAT70 *Entwicklungslaender + *Malaysia/ Landbevoelkerung:
Rundfunk
KAT80 Ergebnis eines Landfunk-Seminars in Malaysia,
das vom Autor geleitet wurde. Das Radio als
bedeutendstes Medium fuer den Kontakt mit
der laendlichen Bevoelkerung in Entwicklungslaendern.
Forderung nach mehr Leistung auf
diesem Gebiet. Situation des Landfunks
in Malaysia und technische Unterstuetzung
durch die Bundesrepublik Deutschland.

KAT10	75-10157-1i
KAT20	<BRD> Friedrich-Ebert-Stiftung; <Jamaika> Agricultural Information Service. Kingston
KAT40	Workshop/Seminar on Rural Broadcasting in the Caribbean, October 19th - November 2nd, 1972, Kingston. <Programm. Arbeitspapiere. Berichte>
KAT50	Kingston x1972. Getr.Pag.
KAT70	*Entwicklungslaender + *Lateinamerika + *Karibischer Raum/ Erziehung: Rundfunk + Erziehung: Fernsehen + Landbevoelkerung: Rundfunk
KAT90	Bo 149: E - MAM II B7 - 1

KAT10	84-10111-1i
KAT30	Mueller, Dietmar
KAT40	Lernen durch Fragen. Soziale Kommunikation und "incomunicacion" bei den Campesinos Mittelamerikas am Beispiel des Instituto Centroamericano de Extension de la Cultura in Costa Rica
KAT50	Frankfurt a.M.,Bern: Peter D. Lang x1981. 327 S., Kt., Tab., Bibliogr.S.316-326
KAT51	(Europaeische Hochschulschriften.Reihe 11: Paedagogik.108)
KAT70	*Mittelamerika + *Costa Rica/ Sozialstruktur + Erwachsenenbildung: Institution, Instituto Centroamericano de Extension de la Cultura + Kommunikation, Forschung: Landbevoelkerung + Ausserschulische Erziehung: Rundfunk + Erwachsenenbildung, Massenmedien: Evaluierung, Methode
KAT71	Lesegewohnheit; Post-Literacy Programmes
KAT90	Bo 149: E - MAM II Db - 6

KAT10	83-06705-1i
KAT30	Speyer, Anne Marie
KAT40	Educational radio: the Brazilian experience
KAT50	in: Media. Hitchin 16(Maerzx1983)1. S.4-9
KAT53	Englisch
KAT70	*Brasilien/ Rundfunk: Erziehung + Grunderziehung
KAT80	In an article which describes the theory and practice of the Movement of Basic Education in Brazil, Sister Anne Marie Speyer, former National Co-ordinator of the Movement, explores the relationships between literacy, community education and social change.

KAT10	78-05283-1i
KAT30	Spain, Peter L.
KAT40	Values and other Economic Realities in Development Communication
KAT50	in: Educational Broadcasting International. London 10(Dez.x1977)4. S.178-181
KAT70	*Entwicklungslaender + *Brasilien + *Honduras/ Alphabetisierung: Rundfunk
KAT80	Ausgangspunkt ist das politische Moment der Grunderziehung; anschliessend Diskussion der Werte, die jedem Grunderziehungsprogramm zugrundeliegen; Beschreibung von 3 Projekten in Lateinamerika als konkrete Beispiele fuer verschiedene Wertgrundlagen; Aufzeigen des moeglicherweise unvermeidlichen Trends der Wirtschaft, normative Richtlinien aufzustellen.

KAT10 77-10237-1i
KAT20 UNESCO;
International Bureau of Education.Geneva;
<BRD> UNESCO Institute for Education.Hamburg
KAT30 White, Robert
KAT40 An Alternative Pattern of basic Education: Radio Santa Maria
KAT50 Paris: Unesco x1976. 122 S., Tab., Bibliogr. S.103-104
KAT51 (Experiments and Innovations in Education.30)
KAT53 Englisch
KAT70 *Dominikanische Republik/ Rundfunk: Schule + Fernunterricht
KAT71 Grunderziehung
KAT90 Bo 149: E - DOR II B7 - 1

KAT10 79-10689-1i
KAT20 Centro Latinoamericano de Educacion de Adultos;
Centro de Documentacion en Comunicacion Educativa
KAT40 Las Escuelas Radiofonicas Santa Maria
KAT50 Santiago de Chile x1975. 13 S.
KAT51 (Documentos CENDOC.Seria A:Articulos.5)
KAT53 Spanisch
KAT70 *Dominikanische Republik/ Rundfunk: Schule + Fernunterricht + Ausserschulische Erziehung
KAT90 Bo 149: E - DOR II B7 - 2

KAT10 78-05035-1i
KAT30 Gunter, Jonathan; Theraux, James
KAT40 Developing Mass Audiences for Educational Broadcasting: Two Approaches
KAT50 in: Prospects.
Paris 7(x1977)2. S.288-298
KAT70 *Entwicklungslaender + *Ekuador/ Rundfunk: Erwachsenenbildung
KAT80 Obwohl das Radio ein Massenkommunikationsmittel ist, werdan seine Moeglichkeiten fuer die Bildung zu wenig genutzt. Hierbei werden vor allem Sendungen, die sich an die Allgemeinheit richten, vernachlaessigt. 2 Beispiele aus Ekuador, die mit Mitteln der Werbesendungen arbeiten, bzw. die Bauern selbst sprechen lassen, zeigen, dass sie erfolgreich die Bevoelkerung ansprechen koennen und zu einem Wandel fuehren.

KAT10 79-10691-1i
KAT20 Centro Latinoamericano de Educacion de Adultos;
Centro de Documentacion en Comunicacion Educativa
KAT30 Braun, Juan Ricardo
KAT40 Las Escuelas Radiofonicas de Pichincha, Ecuador
KAT50 Santiago de Chile x1976. 40 S., graph.Darst., Tab., Bibliogr.S.40
KAT51 (Documentos CENDOC.Serie Articulos.13)
KAT53 Spanisch
KAT70 *Ekuador/ Rundfunk: Schule + Fernunterricht + Ausserschulische Erziehung
KAT90 Bo 149: E - EKU II B7 - 1

KAT10 79-10695-1i
KAT20 <Kolumbien> Accion Cultural Popular
KAT30 White, Robert A.
KAT40 La educacion basica y cambio estructural. Las comunicaciones masivas y la promocion popular como estrategia para el desarrollo rural en Honduras
KAT50 Bogota x1978. 200 S., Tab., Bibliogr.S.198-200
KAT51 (Educacion Fundamental Integral.3)
KAT53 Spanisch
KAT70 *Honduras/ Schule: Rundfunk + Fernunterricht + Laendliches Gebiet, Entwicklung + Massenmedien + Informationswesen + Grunderziehung
KAT90 Bo 149: E - HON II b - 2

KAT10 81-10147-1i
KAT20 <Kolumbien> Accion Cultural Popular
KAT30 Bernal Alarcon, Hernando; Masoner, Paul H.; Muhlman de Masoner, Liliana; Musto, Esteban; Brumberg, Stephen F.
KAT40 Pioneer Radiophonic Education Program of Latin America 1947-1977. Mass Media in the Service of Colombian Rural Development. Communication Media for Rural Development
KAT50 Bogota: ACPO x1978. 66 S., Bild., Tab.
KAT53 Englisch
KAT70 *Lateinamerika + *Kolumbien/ Erziehung: Rundfunk + Massenmedien: Rural Development + Institution, Accion Cultural Popular
KAT90 Bo 149: E - LAM I 02 - 2

KAT10 79-10704-1i
KAT20 <Kolumbien> Accion Cultural Popular
KAT30 Braun, Juan
KAT40 Comunicacion, educacion no-formal y desarrollo nacional. Las radio-escuelas columbianas
KAT50 Bogota <um x1976>. 174 S., Tab., Bibliogr. S.163-172
KAT51 (Educacion Fundamental Integral.1)
KAT53 Spanisch
KAT70 *Kolumbien/ Rundfunk: Schule + Entwicklung + Fernunterricht + Grunderziehung + Ausserschulische Erziehung
KAT90 Bo 149: E - KOL II Db - 1

KAT10 79-10700-1i
KAT20 <Kolumbien> Accion Cultural Popular
KAT30 Bernal Alarcon, Hernando
KAT40 Educacion fundamental integral. Teoria y aplicacion en el caso de ACPO
KAT50 Bogota x1978. 285 S., Tab.
KAT51 (Educacion Fundamental Integral.2)
KAT53 Spanisch
KAT70 *Kolumbien/ Laendliches Gebiet, Entwicklung: Informationswesen + Rundfunk: Erziehung + Massenmedien + Grunderziehung + Institution, Accion Cultural Popular
KAT90 Bo 149: E - KOL II b - 3

KAT10 81-10151-1i
KAT20 <SRD> Internationales Zentralinstitut fuer das
Jugend- und Bildungsfernsehen.Muenchen
KAT30 Bernal, Hernando
KAT40 "Health Education within the Framework of ACPO's
Rural Education Activities". International
Information Week 1980: Health Education by
Television and Radio
KAT50 Muenchen x1980. 37 S., Tab.
KAT53 Englisch
KAT70 *Lateinamerika/ Erziehung: Rundfunk + Erziehung:
Fernsehen + Ausserschulische Erziehung
+ Erziehung: Gesundheit + Rural Development
+ Institution, Accion Cultural Popular
KAT90 Bo 149: E - LAM II 05 - 25

KAT10 84-06735-1i
KAT30 Ginsburg, Mark B.; Arias-Godinez, Beatriz
KAT40 Nonformal education and social reproduction/
tranformation: educational radio in Mexico
KAT50 in: Comparative Education Review. Chicago
28(Feb.x1984)1. S.116-127
KAT53 Englisch
KAT70 *Mexiko/ Ausserschulische Bildung: Rundfunk
KAT80 In this paper the authors have presented evidence
which both supports and refutes the claim that
nonformal education is progressive, nonelitist,
and responsive to the problems of the poor. Such
evidence is available not only by comparing the
two radio projects but also by looking at some of
the complexities of radio project 2. There are
indications of both social reproduction and
social transformation in the processes and consequences
of these two nonformal education programs.

KAT10 83-06859-1i
KAT30 Duran, Jane
KAT40 A calculated risk
KAT50 in: Media in Education and Development. Hitchin
16(x1983)3. S.129-133
KAT53 Englisch
KAT70 *Peru/ Rundfunk: Erziehung
KAT80 Jane Duran, a Media Officer at the British
Council, recently visited Peru to help run a
training workshop for educational radio trainers.
In her article she outlines the aims of the Workshop
and explains the methodology used.

KAT10 81-05388-1i
KAT30 Arnaldo, Carlos A.
KAT40 Cape Verde: A Challenge to the Development
Equation
KAT50 in: Educational Broadcasting International.
London 14(Maerzx1981)1. S.39-41
KAT53 Englisch
KAT70 *Kapverdische Inseln/ Rundfunk: Erziehung
KAT80 Beschreibung des Aufbaus eines Radiosenders
auf den Kapverden, der Erziehungsprogramme
ausstrahlt. Das seit 1978 laufende erfolgreiche
Projekt wird von der UNESCO und der
Bundesrepublik Deutschland unterstuetzt.

B. Rundfunk in der Schule

1.

KAT10	79-10180-1i
KAT20	<USA> University of Massachusetts.Center for International Education.Amherst
KAT30	Theroux, James M.
KAT40	Effective Educational Radio: An Approach to Analyzing Programs
KAT50	Amherst x1978. VIII+35 S., Bibliogr.S.33-35
KAT53	Englisch
KAT70	Rundfunk, Programm: Erziehung
KAT90	Bo 149: E - I 02 - 17

KAT10	78-10107-1i
KAT20	Commonwealth Secretariat; <Australien> Australian Broadcasting Commission. Sydney
KAT40	Educational Broadcasting and Educational Change. Proceedings of the Commonwealth Educational Broadcasting Conference, held in Sydney, Australia, 7-16 October 1975
KAT50	London: Commonwealth Secretariat; Sydney: Australian Broadcasting Commission x1976. 111 S., Bild., Tab.
KAT53	Englisch
KAT70	Erziehung: Rundfunk. Fernunterricht
KAT90	Bo 149: E - I 02 - 13

KAT10	80-10066-1i
KAT20	IBRD
KAT30	Perraton, Hilary <Hrsg.>
KAT40	Alternative Routes to Formal Education: Distance Teaching for School Equivalency
KAT50	Washington,D.C. x1979. V+397 S., Ann., Tab.
KAT53	Englisch
KAT70	Fernunterricht. Erziehung: Rundfunk. Fernunterricht, Finanzierung. Fernunterricht: Lehrmittel. Ausserschulische Erziehung. *Brasilien + *Malawi + *Mauritius/ Schule: Fernunterricht. *Suedkorea + *Kenia + *Israel/ Ausserschulische Erziehung: Fernunterricht
KAT90	Bo 149: E - II B7 - 28

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KAT10      77-10314-1i
KAT20      UNESCO
KAT40      The Economics of new Educational Media.
           Present Status of Research and Trends
KAT50      Paris x1977. 200 S., Gloss., graph.Darst.,
           Kt., Tab., Bibliogr.S.45-63
KAT51      (Educational Methods and Techniques.1)
KAT53      Englisch
KAT70      Erziehung: Cost-Benefit-Analyse
KAT90      Bo 149: E - II A2 - 49
               END OF DOCUMENT

DSE1i8010050 DOCUMENT=        4 OF        7     PAGE =      1
KAT10      80-10050-1i
KAT20      UNESCO
KAT40      The Economics of new Educational Media.
           2.Cost and Effectiveness
KAT50      Paris x1980. 316 S., Tab., bibliogr.Hinw.,
           Bibliogr.S.313-316
KAT51      (Educational Methods and Techniques.1)
KAT53      Englisch
KAT70      Bildungsoekonomie + Fernunterricht
           + Massenmedien, Finanzierung: Erziehung
           + Unterrichtstechnologie: Cost-Benefit-Analyse
           + Lehrmittel + Rundfunk: Erziehung, Methode.
           *Elfenbeinkueste/ Fernsehen: Primaererziehung.
           *Kolumbien/ Rundfunk: Erziehung.
           *Brasilien/ Fernsehen: Erziehung
KAT90      Bo 149: E - II A2 - 49/2
               END OF DOCUMENT

DSE1i8210465 DOCUMENT=        6 OF        7     PAGE =      1
KAT10      82-10465-1i
KAT20      UNESCO
KAT40      The Economics of new Educational Media.
           3.Cost and Effectiveness Overview and Synthesis
KAT50      Paris: Unesco Pr. x1982. 150 S., Tab.,
           Bibliogr.S.143-150
KAT51      (Educational Methods and Techniques.1)
KAT53      Englisch
KAT70      *Entwicklungslaender/ Bildungsoekonomie
           + Unterrichtstechnologie: Cost-Benefit-Analyse
           + Massenmedien: Erziehung + Lehrmittel, Kosten
KAT90      Bo 149: E - II A2 - 49/3
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B 2. Afrika

KAT10	79-10540-1i
KAT20	UNESCO.Regional Office for Education in Africa.Dakar
KAT40	Directory of Educational Radio and Television in Africa South of Sahara
KAT50	Dakar x1978. IV+41 S., Tab.
KAT53	Englisch, Franzoesisch
KAT70	*Afrika/ Rundfunk: Erziehung, Nachschlagewerk + Fernsehen: Erziehung. Nachschlagewerk
KAT90	Bo 149: E - AF I 01 - 4

KAT10	79-10591-1i
KAT20	<Botswana> University College of Botswana. Institute of Adult Education
KAT30	Jere, Annette
KAT40	Survey of Radic Ownership and Listening Habits 1978.1.Facts about Reception
KAT50	Gaborone x1979. o.Pag., Bild., Tab.
KAT51	(IAE Technical Paper.1)
KAT53	Englisch
KAT70	*Botswana/ Rundfunk
KAT90	Bo 149: E - BOT I 02 - 1/1

KAT10	80-10175-1i
KAT20	<Botswana> University of Botswana and Swaziland. University College of Botswana.Institute of Adult Education.Gaborone
KAT30	MacKenzie, Bob
KAT40	Survey of Radio Ownership and Listening Habits 1978.2.Schools Broadcasting
KAT50	Gaborone x1979. o.Pag., Bild., Tab.
KAT51	(IAE Technical Paper.2)
KAT53	Englisch
KAT70	*Botswana/ Rundfunk: Schule
KAT90	Bo 149: E - BOT I 02 - 1/2

KAT10	82-10288-1i
KAT20	African Curriculum Organisation; <BRD> GTZ
KAT30	Owigar, Esther Agutu
KAT40	A Study of Attitudes of Teachers and Pupils toward History Teaching by Radio in Nairobi Primary Schools
KAT50	Nairobi x1981. 43 S.
KAT51	(African Studies in Curriculum Development and Evaluation.28)
KAT53	Englisch
KAT70	*Kenia/ Primarschule: Geschichte, Unterricht + Rundfunk: Unterricht, Geschichte
KAT90	Bo 149: E - KEN II C1 - 6

KAT10 82-10289-1i
KAT20 African Curriculum Organisation;
<BRD> GTZ
KAT30 Nguchu, Ruth Rukunga
KAT40 The Extent to which Radio is used in Teaching of
Home Science in Urban Primary Schools in Kenya
KAT50 Nairobi x1981. 42 S.
KAT51 (African Studies in Curriculum Development
and Evaluation.30)
KAT53 Englisch
KAT70 *Kenia/ Primarschule: Haushaltung, Unterricht
+ Rundfunk: Unterricht, Haushaltung
KAT90 Bo 149: E - KEN II C1 - 7

KAT10 83-10078-1i
KAT20 <BRD> GTZ; African Curriculum Organization
KAT30 Onganga O., Obiero
KAT40 An Evaluation of the Effectiveness of Radio
Programmes in Teaching Englisch Language to
Class six Pupils in Primary Schools in South
Nyanza-Kenya
KAT50 Nairobi: Univ.of Nairobi x1982. 58 S., Tab.
KAT51 (ACO-Project)
KAT53 Englisch
KAT70 *Kenia/ Englisch, Unterricht: Evaluierung
+ Primarschule: Englisch
+ Englisch, Unterricht: Rundfunk
KAT80 Untersuchung der Wirkung von Radioprogrammen
zur Unterstuetzung des Englischunterrichts an
Primarschulen in Kenia
KAT90 Bo 149: E - KEN II C1 - 8

KAT10 83-10088-1i
KAT20 <BRD> GTZ; African Curriculum Organization
KAT30 Ramothea, Leeto Andreas
KAT40 Assessment of the Effectiveness of the Schools
Educational Radio Broadcasting at Junior
Secondary Level in Lesotho
KAT50 Nairobi x1982. 29 S., Anh.
KAT51 (African Studies in Curriculum Development
and Evaluation)
KAT53 Englisch
KAT70 *Lesotho/ Sekundarschule: Rundfunk
+ Massenmedien: Erziehung
+ Lehrmittel, Rundfunk: Evaluierung
KAT71 Schulradio
KAT80 Einsatz und Beurteilung von Rundfunk im
Unterricht als Lehr- und Lernhilfe
KAT90 Bo 149: E - LES II C2 - 1

KAT10 84-10435-1i
KAT20 African Curriculum Organisation;
<BRD> GTZ
KAT30 Sidibe, Moussa
KAT40 An Evaluation of Educational Radio Programme
for Primary School Teachers in Mali
KAT50 Nairobi: ACO x1983. 69 S., Tab.
KAT51 (African Studies in Curriculum Development
and Evaluation.122)
KAT53 Englisch
KAT70 *Mali/ Primarschule: Lehrerbildung
+ Lehrerbildung: Evaluierung
+ Rundfunk, Programm: Lehrer, Ausbildung
KAT90 Bo 149: E - MAL II G6 - 1

KAT10	84-10087-1i
KAT20	<BRD> GTZ; African Curriculum Organisation
KAT30	Gaji, Rufus Yanshen
KAT40	An Evaluation of the Educational Broadcasting Programmes in Kaduna State of Nigeria
KAT50	Nairobi: Univ.of Nairobi x1982. VII+77 S., bibliogr.Hinw.
KAT51	(African Studies in Curriculum Development and Evaluation.54)
KAT53	Englisch
KAT70	*Nigeria.Kaduna State/ Audiovision, Erziehung: Evaluierung + Rundfunk, Programm: Sekundarschule + Fernsehen, Programm: Sekundarschule
KAT71	Erziehungsfernsehen
KAT90	Bo 149: E - NIG II C2 - 13

KAT10	84-10453-1i
KAT20	African Curriculum Organisation; <BRD> GTZ
KAT30	Walugere, Richard
KAT40	The Effectiveness of Radio Programmes as a Strategy for Teaching Science in Primary Schools in Uganda
KAT50	Nairobi: ACO x1983. 14 S., Anh.
KAT51	(African Studies in Curriculum Development and Evaluation.86)
KAT53	Englisch
KAT70	*Uganda/ Primarschule: Naturwissenschaften + Unterricht, Naturwissenschaften: Rundfunk, Programm
KAT90	Bo 149: E - UG II C1 - 2

KAT10	79-10123-1i
KAT20	<Suedafrikanische Republik> South African Human Sciences Research Council.Institute for Educational Research.Pretoria
KAT30	Strydom, G. S.; Kleyn, B. A. <Uebers.>
KAT40	The Establishment and Expansion of the School Radio Service of Radio Bantu
KAT50	Pretoria x1976. VI+97+VII S., Tab.
KAT51	(Report.O-53)
KAT53	Englisch
KAT70	*Suedafrikanische Republik/ Fernunterricht + Rundfunk: Schule
KAT90	Bo 149: E - SAR II B7 - 1

B.3 u.4

KAT10 81-10093-1i
KAT20 UNESCO;
International Bureau of Education.Geneva
KAT30 Choudhury, M. Khashruzzaman;
Obaidullah, A. K. M.
KAT40 Outdoor Primary Education in Bangladesh
KAT50 Paris: Unesco x1980. 60 S., Tab.
KAT51 (Experiments and Innovations in Education.40)
KAT53 Englisch
KAT70 *Bangladesch/ Primarschule + Bildungsreform
+ Rundfunk: Unterricht
KAT90 Bo 149: E - BAN II C1 - 2

KAT10 78-05582-1i
KAT30 Kelabora, Lambert; White, Peter B.
KAT40 Communication Satellites and Education in
Indonesia: What is an Appropriate Strategy?
KAT50 in: Educational Broadcasting International.
London 11(Junix1978)2. S.95-99
KAT70 *Indonesien/ Rundfunk: Erziehung
KAT80 Die Untersuchung zeigt, dass in Indonesien
Rundfunkprogramme als Unterrichts- und Bildungstraeger
geeigneter sind als Fernsehprogramme.

KAT10 75-10077-1i
KAT20 UNESCO
KAT30 Rowland, G. F.
KAT40 Thailand. Educational Broadcasting
Thammasat University
KAT50 Paris x1973. 43 S., Tab.
KAT70 *Thailand/ Rundfunk: Erziehung
KAT90 Bo 149: E - TAI II B2 - 1

KAT10 83-06858-1i
KAT30 White, Robert A.
KAT40 The Latin American association for radiophonic
education
KAT50 in: Media in Education and Development. Hitschin
16(x1983)3. S.122-128
KAT53 Englisch
KAT70 *Lateinamerika/ Rundfunk: Schule
KAT80 Robert A. White, Research Director of the Centre
for the Study of Communication and Culture in
London, describes how Latin American radio
schools have built an organization to provide
a common educational policy and services of
teacher training, research and publication.